

Yuima Municipal Water District

2016 Consumer Confidence Report

Annual Report on Water Quality for 2016

Dated: May 1, 2017

We test the quality of your drinking water for many constituents as required by State and Federal regulations. This report shows the results of our monitoring for the period of January 1 – December 31, 2016.

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

Since 1990, all water utilities in the State of California have been required to distribute to all customers an annual Consumer Confidence Report that provides information regarding the quality of water they served. In 1996, Congress amended the Safe Drinking Water Act and added a similar requirement for a brief annual water quality report.

This report, the *2016 Consumer Confidence Report* (CCR) is more specific and detailed in content. The State Water Resources Control Board (SWRCB), in order to implement state and national policy, oversees the issuance of this report. Yuima Municipal Water District (Yuima or District) is a community water system providing the public water supply that serves much of the community of Pauma Valley. The following report provides information to Yuima's customers regarding test results available through December 31, 2016.

To receive more information about your water, to ask questions, or to receive additional copies of this report, please call Yuima's General Manager, Richard Williamson at (760) 742-3704. Written questions should be addressed to the General Manager at P.O. Box 177, Pauma Valley, CA 92061.

Board of Directors Meetings

Regular meetings of the Board of Directors are generally held monthly on the fourth Monday at 2:00 pm at the District office, 34928 Valley Center Road, Pauma Valley. Each monthly agenda has a scheduled time for public comments during the meeting and is posted at the District Office and is available on the District website.

Board of Directors

W.D. "Bill" Knutson, President
Ron W. Watkins, Vice President
Terry Yasutake, Secretary/Treasurer
Roland Simpson, Director
Laney Villalobos, Director

Staff

Richard Williamson, General Manager
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- ◆ *Where your water comes from*
- ◆ *How water quality is evaluated*
- ◆ *Regulations that protect your health*
- ◆ *How your drinking water measures up against State and Federal drinking water standards for safety, appearance, taste and odor, and*
- ◆ *Where to go if you have questions*

Where your water comes from: Yuima relies on two main sources: local groundwater and imported surface water. The water quality issues that affect groundwater and imported surface water are somewhat different.

Local groundwater is pumped from deep underground wells located throughout Pauma Valley. This underground aquifer is known as the Pauma Groundwater Basin. Yuima uses a sodium hypochlorite solution (chlorine) to treat and disinfect its well water to remove potential bacteria contamination found naturally in the environment.

The District is not required to do any further treatment. Other agencies that use surface source water must provide additional treatment. Surface water by definition is water from lakes and streams usually impounded in open reservoirs where the water is subject to the pollutants in the watershed of its origin.

Imported water is purchased by Yuima from the San Diego County Water Authority (SDCWA), which in turn purchases the majority of its imported water from Metropolitan Water District of Southern California (MWD). MWD imports water into Southern California from two sources: a 242 mile-long aqueduct that brings water from the Colorado River's Lake Havasu, and a 444 mile-long aqueduct that carries water from the State Water Project (SWP). Water from these sources is conveyed to the MWD system through pressurized large diameter pipes, open aqueduct canals and open reservoirs. The supply is then treated at the MWD Skinner Filtration Plant located in Western Riverside County. After treatment at the Skinner Filtration Plant, the water flows into an aqueduct pipeline and is delivered to the Yuima Municipal Water District. Once in the Yuima system, which includes 42 miles of water mains, 10 water storage tanks, and 9 pumping stations;

the water remains in the pressurized pipelines and tanks, further protecting its quality.

These imported surface water sources are potentially vulnerable to contamination. MWD has determined that the Colorado River supplies are most vulnerable due to recreation, urban/storm water runoff, increasing urbanization in the watershed and wastewater. State Project water supplies are considered most vulnerable due to urban/storm water runoff, wildlife, agriculture, recreation and wastewater. A copy of MWD's assessment of these vulnerabilities can be obtained through contacting MWD by phone at (213) 217-7426.

How Water Quality is Evaluated: Water quality is evaluated by performing periodic laboratory analyses on water samples to determine the physical characteristics of the water and the presence or absence of chemical, biological and radiological contaminants. Contaminants that may be present in source water include:

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

Additional Information on Drinking Water

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency (USEPA) Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer and undergoing chemotherapy, organ transplant recipients, and those with HIV/AIDS or other immune system

disorders, including elderly and infants who can be particularly at risk. These people should seek advice about drinking water from their health care providers.

The 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 Safe Drinking Water Hotline (1-800-426-4791).

ABBREVIATIONS USED IN THIS REPORT

- ◆ **PDWS = "Primary Drinking Water Standards"** The highest level of a contaminant that is allowed in drinking water. Primary MCL's are set as close to the PHG's (or MCLG's) as is economically and technologically feasible. Secondary MCL's are set to protect the odor, taste, and appearance of drinking water.
- ◆ **SDWS = "Secondary Drinking Water Standards"** Limits established by regulation that set the maximum amount of specific contaminants that affect the taste, odor, or appearance of the drinking water.
- ◆ **PHG = "Public Health Goal"** 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.
- ◆ **MCLG = "Maximum Contaminant Level Goal"** 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.
- ◆ **MCL = "Maximum Contaminant Level"** 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.
- ◆ **MRDL = "Maximum Residual Disinfectant Level"** The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.
- ◆ **MRDLG = "Maximum Residual Disinfectant Level Goal"** The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLG's are set by the U.S. Environmental Protection Agency.
- ◆ **RAL = "Regulatory Action Level"** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- ◆ **NA = not applicable.**
- ◆ **NC = not collected.**
- ◆ **ND = not detectable at testing limit.**
- ◆ **NTU = Nephelometric Turbidity Units**, a measure of the suspended material in water.
- ◆ **ppb = parts per billion.**
- ◆ **µg/l = micrograms per liter.**
- ◆ **ppm = parts per million or milligrams per liter.**
- ◆ **pCi/l = picocuries per liter (a measure of radiation).**
- ◆ **CFU/100 ml = colony forming units per 100 milliliters.**
- ◆ **µmho/cm = micromho per centimeter**; a measure of electrical conductivity.
- ◆ **TT = "Treatment Technique"** A required process intended to reduce the level of a contaminant in drinking water.

Additional Notes

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.

In order to ensure that tap water is safe to drink, USEPA and the SWRCB have issued regulations that limit the amount of certain contaminants in water provided by public water systems. SWRCB regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. The USEPA's drinking water website is <http://water.epa.gov/drink/index.cfm>. A *Source Water Assessment* was conducted for the Yuima Municipal Water District system in 2010 and updated in 2012. A copy may be obtained by contacting the office.

In 2016, Yuima started using Ammonia as well as Chlorine for disinfection in the water treatment. Chloramine is produced by combining chlorine and ammonia. Chloramine is chiefly a secondary disinfectant. Secondary disinfectants are added to water that has already been disinfected with a primary disinfectant, often chlorine. Secondary disinfectants are used to help protect treated water from recontamination as it flows through the distribution network to the consumer.

Nitrate: 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 seek advice from your health care provider. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. Nitrate is found in all District wells at varying levels but is blended down below 10 mg/L before it is supplied to District customers.

Perchlorate: At high levels, Perchlorate has been shown to interfere with thyroid function by reducing iodine uptake by the thyroid gland, thereby reducing the production of thyroid hormones and leading to adverse

effects associated with hyper-thyroidism, particularly in developing fetus, infants and young children. The effects of perchlorate on thyroid function are dose-dependent and reversible.

Perchlorate has been detected at low levels in certain District wells, most likely as a result of heavy applications of fertilizers over a period of many years by commercial agriculture on overlying lands. Though present at levels well below those associated with adverse health effects in humans, the perchlorate concentration is further reduced by blending with perchlorate-free water from other sources before delivery to any of the District's customers.

Lead and Copper: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Health effects of copper include stomach and intestinal distress and prolonged exposure can result in liver damage or the inability to metabolize copper also known as Wilson's disease. Lead and copper in drinking water is primarily from materials and components associated with service lines and home plumbing. Yuima Municipal Water District 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 and copper exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead and/or copper in your water, you may wish to have your water tested. Information on lead and copper 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/safewater/lead>.

*The results of testing performed in 2014 as part of the 1991 Lead and Copper Rule are summarized in the table below.

Discussion of Vulnerability – Although no contaminants other than nitrates have been detected in the local water supply, the system is still considered vulnerable to activities carried out near the drinking water sources. The most significant identified sources of possible contamination are fertilizer and pesticide use from agriculture groves in the area surrounding District wells. All drinking water sources in Yuima Municipal Water District are secured from vandalism by locked entrance gates and fencing with barbed wire.

Lead and Copper (testing done June 2014)	No. of samples collected	90 th percentile level detected	No. sites exceeding RAL	RAL	PHG	Typical Source of Contaminant
Lead (ppb) Yuima	5	3.5	0	15	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
IDA	5	1.2				
Copper (mg/L) Yuima	5	0.26	0	1.3	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
IDA	5	0.28				

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Parameter	Units	State or Federal MCL [MRDL]	PHG (MCLG) [MRDLG]	State DLR	Range Average	Testing Date Range	Combined Sources Yuima/IDA	Imported Colorado State Project	Major Sources in Drinking Water
Percent State Project Water	%	NA	NA	NA	Range Average	2016	NA	0-100	
PRIMARY STANDARDS--Mandatory Health-Related Standards									
MICROBIOLOGICAL									
Total Coliform Bacteria	%	5.0	(0)	NA	Range Average	2016	ND	ND-0.3	Naturally present in the environment
ORGANIC CHEMICALS - none to report									
<i>Semi-Volatile Organic Compounds- none to report</i>									
<i>Volatile Organic Compounds</i>									
Trichlorofluoromethane (Freon-11)	ppb	150	1300	5	Range Average	2016	ND-89 23	ND ND	Industrial factory discharge; degreasing solvent; propellant
INORGANIC CHEMICALS									
Aluminum	ppb	1000	600	50	Range Average	2016	ND-0.045 ND	ND-240 120	Residue from water treatment process; natural deposits erosion
Arsenic	ppb	10	0.004	2	Range Average	2016	NA ND	ND-3.1 1.12	Natural deposits erosion, glass and electronics production wastes, runoff from orchards
Barium	ppb	1000	2000	100	Range Average	2016	ND-150 54.8	ND-144 82.2	Oil and metal refineries discharges; natural deposits erosion
Fluoride	ppm	2.0	1	0.1	Range Average	2016	0.15-0.31 0.21	0.6-0.9 0.7	Erosion of natural deposits; water additive that promotes strong teeth
Nitrate (as N) (i)	ppm	10	10	0.4	Range Average	2016	ND-9.8 2.06	ND-1.1 0.8	Runoff and leaching from fertilizer use; septic tank and sewage; natural deposits erosion
Perchlorate	ppb	6	6	4	Range Average	2016	ND-4.8 0.24	ND ND	Industrial waste discharge
Selenium	ppb	50	30	5	Range Average	2016	ND-7.2 1.78	ND ND	Refineries, mines, and chemical waste discharge; runoff from livestock lots
RADIOLOGICALS									
Gross Alpha Particle Activity	pCi/L	15	(0)	3	Range Average	2016	1.18-8.04 3.14	ND-5 0.6	Erosion of natural deposits
Gross Beta Particle Activity	pCi/L	50	(0)	4	Range Average	2016	NA 1.64	ND-6 3	Decay of natural and man-made deposits
Radium-226	pCi/L	NA	0.05	1	Range Average	2016	NA 0.025	ND ND	Erosion of natural deposits
Uranium	pCi/L	20	0.43	1	Range Average	2015	NA 5.1	ND-4 2.4	Erosion of natural deposits
DISINFECTION BY-PRODUCTS, DISINFECTANT RESIDUAL, AND DISINFECTION BY-PRODUCTS PRECURSORS									
Total Trihalomethanes (TTHM)	ppb	80	NA	1	Range Average	2016	8.8-18 14.65	16-62 42	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	ppb	60	NA	1	Range Average	2016	3.8-14 7.8	ND-31 14	By-product of drinking water chlorination
Total Chlorine Residual	ppm	[4.0]	[4.0]	NA	Range Average	2016	ND-2.2 1.39	0.9-3.1 2.4	Drinking water disinfectant added for treatment
Bromate	ppb	10	0.1	5.0	Range Average	2016	NA NA	ND-13 3.5	By-product of drinking water ozonation
VOLATILE ORGANIC CONTAMINENTS - none to report									
SECONDARY STANDARDS--Aesthetic Standards									
Aluminum	ppb	200	NA	50	Range Average	2016	ND-0.045 ND	ND-240 85.2	Erosion of natural deposits; residual from some surface water treatment processes
Chloride	ppm	500	NA	NA	Range Average	2016	NA 82.3	78-104 97.2	Runoff/leaching from natural deposits; seawater influence
Color	Units	15	NA	NA	Range Average	2016	ND-20 2	1-2 1.6	Naturally occurring organic materials
Iron	ppb	300	NA	100	Range Average	2016	ND-6100 360	ND ND	Leaching from natural deposits; industrial wastes
Manganese	ppb	50	NL = 500	20	Range Average	2016	ND-0.09 0.06	ND ND	Leaching from natural deposits
Odor Threshold	TON	3	NA	1	Range Average	2016	ND-17 1.13	2-3 2.6	Naturally-occurring organic materials
Specific Conductance	µS/cm	1600	NA	NA	Range Average	2016	380-1300 865	475-1050 856.4	Substances that form ions in water; seawater influence
Sulfate	ppm	500	NA	0.5	Range Average	2016	89-200 147.1	29-282 179.4	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	ppm	1000	NA	NA	Range Average	2016	280-880 599.3	281-659 525.4	Runoff/leaching from natural deposits
Turbidity	NTU	5	NA	NA	Range Average	2016	ND-16 1.6	ND ND	Soil runoff
Zinc	ppm	5.0	NA	0.05	Range Average	2016	ND-0.03 0.01	ND ND	Runoff/leaching from natural deposits; industrial wastes

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Parameter	Units	State or Federal MCL [MRDL]	PHG (MCLG) [MRDLG]	State DLR	Range Average	Testing Date Range	Combined Sources Yuima/DA	Imported Colorado State Project	Major Sources in Drinking Water
FEDERAL UNREGULATED CHEMICALS REQUIRING MONITORING (UCMR2)									
Boron	ppb	NL=1000	NA	100	Range Average	2013	ND ND	140-270 190	Some pregnant women who drink water in excess containing boron - risk of developmental effects
OTHER PARAMETERS									
MICROBIOLOGICAL									
HPC	CFU/mL	TT	NA	NA	Range Median	2016	ND-740 155.25	ND-1 ND	Naturally present in the environment
CHEMICAL									
Alkalinity	ppm	NA	NA	NA	Range Average	2016	NA 160	64-125 105	
Calcium	ppm	NA	NA	NA	Range Average	2016	NA 84.8	17-79 56	By-product of drinking water chlorination; industrial processes
Chlorate	ppb	NL=800	NA	20	Range Average	2016	NA NA	26-60 26-60	Runoff/leaching from natural deposits; industrial wastes
Corrosivity (as Aggressiveness Index)	AI	NA	NA	NA	Range Average	2016	NA 12.21	12-12.5 12.3	Elemental balance in water; affected by temperature, other factors
Hardness	ppm	NA	NA	NA	Range Average	2016	NA 291.7	87-308 221.8	Municipal and industrial waste discharges
Magnesium	ppm	NA	NA	NA	Range Average	2016	1.2-58 26.6	10-27 20	
pH	pH Units	NA	NA	NA	Range Average	2016	7.14-8.32 7.75	8.1-8.6 8.2	
Potassium	ppm	NA	NA	NA	Range Average	2016	5.5-8.32 5.64	2.7-5.1 4.2	
Sodium	ppm	NA	NA	NA	Range Average	2016	23-130 55.14	62-107 93.4	Salt present in the water and is generally naturally occurring

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If appropriate, please post this report so others may view its contents. Additional copies may be obtained by contacting the District at (760) 742-3704.