Yuima Municipal Water District

2012 Consumer Confidence Report

Annual Report on Water Quality for 2012

Dated: May 1, 2013

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, 2012.

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 *2012 Consumer Confidence Report* (CCR) is more specific and detailed in content. The California Department of Public Health (CDPH), in order to implement state and national policy, oversees the issuance of this report. Yuima Municipal Water District (Yuima) 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, 2012.

To receive more information about your water, to ask questions, or to receive additional copies of this report, please call Yuima's General Manager, Linden A. Burzell 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 held monthly on the fourth Monday at 2:00 pm at the District office at 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
Douglas K. Anderson, Vice President
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Jeffrey G. Scott, General Counsel

This report explains:

- ***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 doses sodium hypochlorite (chlorine) to treat and disinfect its well water to remove bacteria found naturally in the environment.

The District is not required to do any further treatment, other agencies that use surface 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.

The ***imported water*** is purchased by Yuima from the San Diego County Water Authority, which in turn purchases the majority of its imported water from Metropolitan Water District of Southern California (Metropolitan). Metropolitan 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 Sacramento-San Joaquin River Delta (State Project). Water from these sources travels to the Metropolitan system through pressurized large diameter pipes, open aqueduct canals and open reservoirs. The supply is then treated at the Robert F. Skinner Filtration Plant located in western Riverside County.

These imported surface water sources are potentially vulnerable to contamination. Metropolitan has determined that the Colorado River supplies are most vulnerable to recreation, urban/storm water runoff, increasing urbanization in the watershed and wastewater.

State Project water supplies are considered most vulnerable to urban/storm water runoff, wildlife, agriculture, recreation and wastewater. A copy of Metropolitan's assessment of these vulnerabilities can be obtained by contacting Metropolitan 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 and biological 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 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 or farming.
- *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban storm water runoff, and 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 trace amounts 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 USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those undergoing chemotherapy, organ transplant recipients, and those with HIV/AIDS or other immune system disorders, some elderly and infants 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.
- **N/A =** 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** = micromhos 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 CDPH have issued regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. A *Source Water Assessment* was conducted for the Yuima Municipal Water District system in 2010 and updated in 2012.

Nitrate: Nitrate in drinking water at levels above 45 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 45 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 45 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 the 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: 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. 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 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 http://www.epa.gov/safewater/lead.

Discussion of Vulnerability – Although no contaminants other than nitrates and perchlorates 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 2011)		**No. of samples collected**	**90th percentile level detected**	**No. sites exceeding AL**	**AL**	**PHG**	**Typical Source of Contaminant**
Lead (ppb)	Yuima IDA	5 5	1 6	0	15	2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm)	Yuima IDA	5 5	0.24 0.56	0	1.3	0.17	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

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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					Range	2012	NA	7-100	
Project Water	%	NA	NA	NA	Average		NA	70.4	
PRIMARY STANDARDS--Mandatory Health-Related Standards									
MICROBIOLOGICAL									
Total Coliform					Range	2012	ND	ND-0.5	
Bacteria	%	5.0	(o)	NA	Average		ND	0.1	Naturally present in the environment
ORGANIC CHEMICALS - none to report									
Semi-Volatile Organic Compounds- none to report									
Volatile Organic Compounds									
Trichlorofluoromethane					Range	2012	ND-42	ND	Industrial factory discharge; degreasing solvent;
(Freon-11)	ppb	150	700	5	Average		22	ND	propellant
INORGANIC CHEMICALS									
					Range	2012	ND-680	ND - 340	Residue from water treatment process;
Aluminum	ppb	1000	600	50	Average		36	118.3	natural deposits erosion
					Range	2012	ND-160	ND	Oil and metal refineries discharges;
Barium	ppb	1000	2000	100	Average		ND	ND	natural deposits erosion
					Range	2012	0.2-0.21	0.3-1.1	Erosion of natural deposits;
Fluoride	ppm	2.0	1	0.1	Average		0.21	0.8	water additive that promotes strong teeth
					Range	2012	NA	ND-0.7	Runoff and leaching from fertilizer use; septic tank
Nitrate (as N) MWD	ppm	10	10	0.4	Average		NA	0.1	and sewage; natural deposits erosion
					Range	2012	ND-**100**	NA	Runoff and leaching from fertilizer use; septic tank
Nitrate (as NO3) Yuima	ppm	45	45	2	Average		44.3	NA	and sewage; natural deposits erosion
					Range	2012	ND-**7.9**	ND	
Perchlorate	ppb	6	6	4	Average		2.4	ND	Industrial waste discharge
					Range	2012	ND-15	ND	Refineries, mines, and chemical
Selenium	ppb	50	30	5	Average		ND	ND	waste discharge; runoff from livestock lots
RADIOLOGICALS									
Gross Alpha					Range	2012	ND-4.5	ND-3	
Particle Activity	pCi/L	15	(0)	3	Average		ND	0.6	Erosion of natural deposits
Gross Beta					Range	2012	ND-4	ND-6	
Particle Activity	pCi/L	50	(0)	4	Average		ND	0.8	Decay of natural and man-made deposits
					Range	2011	ND-2.6	ND-2	
Uranium	pCi/L	20	0.43	1	Average		ND	1.4	Erosion of natural deposits
DISINFECTION BY-PRODUCTS, DISINFECTANT RESIDUAL, AND DISINFECTION BY-PRODUCTS PRECURSORS									
Total Trihalomethanes					Range	2012	15-29	7.6-70	
(TTHM)	ppb	80	NA	1	Average		29	35	By-product of drinking water chlorination
Haloacetic Acids					Range	2011	3-10	1.3-23	
(HAA5)	ppb	60	NA	1	Average		10	16	By-product of drinking water chlorination
					Range	2012	1.6-1.8	1.5-2.8	
Total Chlorine Residual	ppm	[4.0]	[4.0]	NA	Average		1.7	2.3	Drinking water disinfectant added for treatment
					Range	2012	NA	ND-11	
Bromate	ppb	10	0.1	5.0	Average		NA	5	By-product of drinking water ozonation
SECONDARY STANDARDS--Aesthetic Standards									
					Range	2012	ND-680	ND-340	Residue from water treatment process;
Aluminum	ppb	200	600	50	Average		36	118.3	natural deposits erosion
					Range	2012	8-130	50-100	Runoff/leaching from natural deposits;
Chloride	ppm	500	NA	NA	Average		69	80.8	seawater influence
					Range	2012	ND-7.5	1-2	
Color	Units	15	NA	NA	Average		ND	1	Naturally occurring organic materials
					Range	2012	ND-12	ND	
Iron	ppb	300	NA	100	Average		0.6	ND	Leaching from natural deposits; industrial wastes
					Range	2012	ND-0.12	ND	
Manganese	ppb	50	NL = 500	20	Average		0.04	ND	Leaching from natural deposits
					Range	2012	ND-1	1-2	
Odor Threshold	TON	3	NA	1	Average		ND	2	Naturally-occurring organic materials
					Range	2012	340-1200	340-930	Substances that form ions in water;
Specific Conductance	µS/cm	1600	NA	NA	Average		744	618	seawater influence
					Range	2012	9-280	27-160	Runoff/leaching from natural deposits;
Sulfate	ppm	500	NA	0.5	Average		130	98.8	industrial wastes
Total Dissolved Solids					Range	2012	240-870	240-500	Runoff/leaching from natural deposits;
(TDS)	ppm	1000	NA	NA	Average		507	380	seawater influence
					Range	2012	ND-12	ND-0.1	
Turbidity	NTU	5	NA	NA	Average		ND	ND	Soil runoff
					Range	2012	ND-0.05	ND	Runoff/leaching from natural deposits;
Zinc	ppm	5.0	NA	0.05	Average		ND	ND	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/IDA	Imported Colorado State Project	Major Sources in Drinking Water
FEDERAL UNREGULATED CHEMICALS REQUIRING MONITORING (UCMR2) OTHER PARAMETERS									
MICROBIOLOGICAL									
					Range		NA	ND-1	
HPC (d)	CFU/mL	TT	NA	NA	Median		NA	ND	Human and animal fecal waste
CHEMICAL									
					Range	2012	76-160	53-120	
Alkalinity	ppm	NA	NA	NA	Average		126	88	
					Range	2012	NA	130-170	Runoff/leaching from natural deposits;
Boron	ppb	NL=1000	NA	100	Average		NA	142	industrial wastes
					Range	2012	29-140	16-53	By-product of drinking water chlorination;
Calcium	ppm	NA	NA	NA	Average		75	35.8	industrial processes
					Range	2012	NA	ND-80	Runoff/leaching from natural deposits;
Chlorate	ppb	NL=800	NA	20	Range		NA	ND-80	industrial wastes
Corrosivity					Range	2012	12	11.9-12.3	Elemental balance in water; affected
(as Aggressiveness Index)	AI	NA	NA	NA	Average		12	12.1	by temperature, other factors
					Range	2012	85-520	78-270	
Hardness	ppm	NA	NA	NA	Average		275	156	
					Range	2012	5-41	11-21	
Magnesium	ppm	NA	NA	NA	Average		22	16	
	pH				Range	2012	7.2-8.1	7.9-8.6	
pH	Units	NA	NA	NA	Average		7.5	8.2	
					Range	2012	6-7.2	2.3-4.1	
Potassium	ppm	NA	NA	NA	Average		6.6	3.3	
					Range	2012	17-90	43-82	Salt present in the water and is generally
Sodium	ppm	NA	NA	NA	Average		50	67.2	naturally occurring
					Range	2012	NA	1.7-2.7	
TOC	ppm	TT	NA	0.30	Average		NA	2.2	Various natural and man-made sources
N-Nitrosodimenthylamine					Range	2012	NA	ND-6.7	By-product of drinking water chloramination;
(NDMA)	ppb	NL= 0.01	0.003	0.002	Range		NA	ND-6.7	industrial processes

YUIMA MUNICIPAL WATER DISTRICT
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Pauma Valley, Ca. 92061
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