

June, 2009

## 2008 WATER QUALITY REPORT

### To our customers

The City of Arroyo Grande is pleased to present this annual report describing the quality of your drinking water. We sincerely hope this report provides you with a basic understanding of the City's water quality.

#### 2008 Water Statistics

- Surface Water Provided  
⇒766 Million Gallons
- Groundwater Pumped  
⇒379 Million Gallons
- Total Water Delivered  
⇒1,145 Million Gallons
- Ave. Daily Demand 3.1 Million Gallons

#### What is the source of my drinking water?

The City of Arroyo Grande has both surface and groundwater sources of water. The surface water comes from the treatment plant at Lopez Lake. In 2008, Lopez provided 67% of the City's total supply. The City receives a blend of Lopez Water and State Water since both are delivered in the same distribution pipeline. The City, however, is not a participant in the State Water Project. The groundwater comes from City wells. The blend of surface and groundwater has an average hardness of 18 grains per gallon. At the present time, production from one of the City's seven wells exceeds the maximum contaminant level for nitrate concentration. This amount has declined over the past five years. **This condition is mitigated by blending prior to distribution.** Nitrate in drinking water at levels above 45 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness; symptoms include shortness of breath and blueness of the skin. High nitrate levels may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with specific enzyme

deficiencies. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider or choose to use bottled water for mixing formula and juice for your baby. If you are pregnant, you should drink bottled water. One well exceeds the maximum contaminant level for manganese. **This is reduced by filtration prior to distribution.** The City of Arroyo Grande is committed to providing its customers with the highest quality of water possible. The City will continue in its efforts to meet or exceed all State and Federal Water Quality requirements.

#### Where is the water tested?

Both surface and groundwater supplies are tested independently by certified commercial laboratories. The labs are certified by the Department of Public Health as environmental testing laboratories for bacteriological and chemical analyses. Federal and State requirements dictate that all regulatory analyses be performed by certified labs following approved procedures.

#### Where can the community participate in decisions regarding water quality?

The public can participate in the County Flood Control District, Zone 3 Advisory Group Committee concerning surface water received from the Lopez Treatment Plant. This group is composed of representatives from the Five-Cities area. The group meets on the 3<sup>rd</sup> Thursday of January, March, May, July, September, and November. Information on meeting times and places are published in the newspaper or can be obtained from the City of Arroyo Grande Public Works Department. Groundwater questions can be directed to the Utilities Division of the Public Works Department at 473-5460.

**Este informe contiene información muy importante sobre su agua de beber. Tradúzcalo ó hable con alguien que lo entienda bien.**

For additional information concerning the Annual Water Quality Report and results of UCMR monitoring, please call Shane Taylor, Public Works Supervisor at 473-5464.

**TERMS USED IN THIS REPORT:**

**Maximum Contaminant Level Goal (MCLG) and Public Health Goal (PHG)** – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the Federal Environmental Protection Agency and PHGs are set by the California Environmental Protection Agency.

**Maximum Contaminant Level (MCL)** – The highest level of a contaminant 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 Residual Disinfectant Level (MRDL)** – The level of a disinfectant added for water treatment that may not be exceeded at the tap.

**Primary Drinking Water Standards (PDWS)** – MCLs 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 a treatment or other requirement which a water system must follow.

**NS (No Standard):** Contaminant for which there is no established MCL.

**ND (Not Detected):** Contaminant is not detectable at testing limit

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

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

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

**NTU:** Nephelometric Turbidity Unit

**TON:** Threshold Odor Number

**LI:** Langelier Index; Noncorrosive = Any positive value, Corrosive = Any negative value

The sources of drinking water (both tap and bottled) 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.

**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.
- *Inorganic contaminants*, such as salts and metals, which can be naturally-occurring or result from urban stormwater 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 stormwater 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, urban stormwater runoff, and septic systems.
- *Radioactive contaminants* which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the USEPA and the California Department of Health Services (DHS) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. DHS regulations also establish limits for contaminants in bottled water, which must provide the same protection for public health.

Tables 1 through 6 list all of the drinking water contaminants that were detected from January 2007 through December 2007, unless otherwise noted. The presence of these contaminants in water does not necessarily indicate that the water poses a health risk. The DHS requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, may be more than one year old.

	<b>Treatment Technique for Lopez Project Conventional Treatment</b>	<b>Treatment Technique for State Water Conventional Treatment</b>
Turbidity Performance Standard – Turbidity measures the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Turbidity of filtered water must be less than or equal to 0.3 NTU in 95% of measurements in a month. Not exceed 1.0 NTU for more than eight consecutive hours. Not exceed 1 NTU for more than eight consecutive hours.		
Lowest monthly percentage of samples that met Turbidity Performance Standard 1.	99.5%	100%
Highest single turbidity measurement during the year.	0.15 NTU	0.12
The number of violations of any surface water treatment requirement.	0	0

Contaminant (reporting units)	MCL	PHG (MCLG)	Lopez WTP		State Water		Groundwater		Potential Source of Contamination
			Range	Average	Range	Average	Range	Average	
Total Coliform Bacteria	5.0% of monthly samples	(0)		ND		ND		0%	Naturally present in the environment

Table 3 - Detection of Contaminants with a Primary Drinking Water Standard		Lopez WTP			State Water		Groundwater		Potential Source of Contamination
Contaminant (reporting units)	MCL	PHG(MCLG)	Range	Average	Range	Average	Range	Average	
Aluminum (ppb)	1000	600		ND	ND - 220	93		ND	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic (ppb)	50	-----		4.0	ND	ND		ND	Runoff from orchards; natural deposits
Fluoride (ppb)	2000	1000		0.36		ND	230 - 330	260	Erosion of natural deposits
Nitrate (ppm)	45	45		ND	ND - 2.3	2.3	2.5 - 56	24.5	Runoff/leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Selenium (ppb)	50			ND		ND	ND-10	8.2	Runoff/leaching from natural deposits
Haloacetic Acids (ppb)	60	-----	6.5 - 25	17	7 - 18	11.6	10.2 - 20.8*	14.2*	By-product of drinking water chlorination
Total Chlorine Residual (ppm)	MRDL = 4.0 as $Cl_2$	[4]	1.47 - 3.48	2.24	1.7 - 3.5	2.3	.02- 2.19*	1.53*	Drinking water disinfectant added for treatment
Chlorite (ppb)	1000	(800)	ND - 1000	750		ND		ND	Byproduct of drinking water disinfection
Chlorine Dioxide (ppb)	800 as $ClO_2$	[800]	ND - 420	ND		NA		ND	Drinking water disinfectant added for treatment
Total Organic Carbon (ppm)	TT	-----		ND	1.3 - 3.5	2.3		ND	Various natural and manmade sources
Nitrite & Nitrate as N (ppb)	10000	10000		ND	ND - 530	530	510 - 13000	6172.8	Runoff/leaching from fertilizer use; sewage; natural erosion
Gross Alpha Particle Activity (pCi/L)	15	(0)	ND - 1.93	0.8	ND	ND	ND - 7.6	4.2	Erosion of natural deposits
Total Trihalomethanes (ppb)	80	-----		26	44 - 75	58	18.1 - 39.7*	25*	By-product of drinking water chlorination

\*These sample results are from the distribution system only.

Table 4 - Detection of Contaminants with a Secondary Drinking Water Standard		Lopez WTP			State Water		Groundwater		Potential Source of Contamination
Contaminant (reporting units)	MCL	Range	Average	Range	Average	Range	Average		
Aluminum (ppb)	200		ND	28 - 150	81			ND	Naturally present in the environment
Chloride (ppm)	500	21 - 27	25	57 - 138	106	27 - 120		53.6	Runoff/leaching from natural deposits; seawater influence
Iron (ppb)	300		ND		ND	ND - 140		29.7	Leaching from natural deposits
Manganese (ppb)	50		ND		ND	30 - 170		10.6	Leaching from natural deposits
Color (CU)	15		2		3	ND		ND	Naturally occurring organic materials
Corrosivity (LI)	Noncorrosive	0.6 - 1.3	0.9		Noncorrosive			Noncorrosive	Natural or industrially influenced balance of hydrogen, carbon and oxygen in the water; affected by temperature and other factors
Odor - (Ton)	3	1 - 3	1.8	1 - 3	1			1	Naturally occurring organic materials
Specific Conductance (micromhos)	1600	720 - 740	730	489 - 720	595	640 - 1000		852.8	Runoff/leaching from natural deposits; seawater influence
Sulfate (ppm)	500	100 - 114	110		58	79 - 180		144.1	Runoff/leaching from natural deposits; industrial wastes
Turbidity (NTU)	5	.02 - .15	0.03	0.04-0.17	0.06	0.1 - 0.5		0.18	Soil Runoff
Total Dissolved Solids (ppm)	1000	440 -470	450	294 - 432	357	410 - 640		552.8	Runoff/leaching from natural deposits

Table 5 - Detection of Contaminants without a Drinking Water Standard	Lopez WTP		State Water		Groundwater		
Contaminant (reporting units)	Range	Average	Range	Average	Range	Average	Potential Source of Contamination
Alkalinity as CaCO <sub>3</sub> (ppm)	240 - 300	270	64 - 90	78	120 - 400	220	Runoff/leaching from natural deposits; seawater influence
Calcium (ppm)	77 - 81	79	46 - 76	58	70 - 150	102	Runoff/leaching from natural deposits; seawater influence
Hardness (ppm)	320 - 340	330	96 - 150	120	240 - 510	365.7	Usually found in ground/surface water
Magnesium (ppm)	35 - 39	37		14	22 - 47	35.1	Runoff/leaching from natural deposits; seawater influence
PH	8.05 - 8.51	8.2	7.3 - 9.0	8.2	7.4 - 8.0	7.7	Runoff/leaching from natural deposits; seawater influence
Potassium (ppm)		ND		3.1	2.5 - 5.1	3.1	Runoff/leaching from natural deposits; seawater influence
Sodium (ppm)	23 - 29	27		62	40 - 72	50.1	Runoff/leaching from natural deposits; seawater influence
Vanadium (ppb)	3.8 - 6.2	4.9		3.7	ND - 27	15.1	Runoff/leaching from natural deposits

Table 6 - Sampling Results Showing the Detection of Lead and Copper						
Lead and Copper (to be completed only if there was a detection of lead or copper in the last sample set)	No. of samples collected	90 <sup>th</sup> percentile level detected	No. Sites exceeding AL	AL	MCLG	Typical Source of Contamination
Lead (ppb)	30	ND	0	15	2	Internal corrosion of household water plumbing systems
Copper (ppm)	30	0.880	2	1.3	0.17	Internal corrosion of household water plumbing systems

### Additional General Information on Drinking Water

**A**ll 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 (1-800-426-4791).

**S**ome 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 Safe Drinking Water Hotline (1-800-426-4791).

**A** source water assessment was conducted for the City of Arroyo Grande water system in August 2001. No contaminants have been detected in the water supply, however the source is considered most vulnerable to the following activities: agricultural drainage, sewer collection systems, utility stations, agricultural wells, known contaminate plumes, underground storage tanks, grazing, and dry cleaners. A completed copy of the assessment may be viewed at 1375 Ash Street, Arroyo Grande, CA 93420.

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