

# *Annual Drinking Water Quality Report*

## **Madera County Maintenance District 46**

### **Ahwahnee – 2002**

We're pleased to present to you this year's *Annual Drinking Water Quality Report*. This report is designed to inform you about the quality of water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to improve the water treatment and delivery process and protect your water resources. We are committed to ensuring the quality of your water.

**The sources of drinking water** (both tap 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 human activity.

#### **Possible sources of contamination:**

- *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, that can be naturally-occurring or result from urban 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 byproducts 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 tapwater** is safe to drink, the U. S. Environmental Protection Agency (EPA) and the California Department of Health Services (DHS) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. DHS regulations also establish

limits for contaminants in bottled water that must provide the same protection for public health.

Maximum Contamination Limits (MCLs) are set at very stringent levels. To understand the risk of possible health effects for regulated contaminants, you should know that a person would have to drink two (2) liters of water every day for a lifetime at the MCL level to have a one-in-a-million chance of affecting their health.

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's Safe Drinking Water Hotline at (800) 426-4791.

**Some people may be more vulnerable** to contaminants in drinking water than the general population. Immuno-compromised persons, such as people with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and/or infants, can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC (Center for Disease Control) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline.

**Our water is supplied by** six deep wells, drawing from fractured rock approximately 900 to 1160 feet below the earth's surface and is stored in two tanks, designated ACC and MCE. The actual blend of this water is a complex issue involving how water

flows, the locations using it at any given time, and at what volume. Because of this, we are including a separate table for each tank. Users served primarily by the MCE tank are those located on Loch Lomond Court, Loch Lomond Lane, Miami Highlands Circle, Miami Highlands Court, and Miami Highlands Drive. The rest of the district is served primarily by the ACC tank. When reviewing the tables, please bear in mind that the results pertaining to you will be somewhere between the values shown.

During 2002, as in 2000, limited testing revealed violation of the EPA's MCL for Gross Alpha and

Uranium. A full battery of tests was not repeated in 2002 since we do not expect the levels to vary appreciably. More information is given below.

If you have any questions about this report or concerning your water utility, please contact Linda Alexander at (559) 675-7817. We want our customers to be informed about their water utility.

The Madera County Engineering Department routinely monitors for contaminants in your drinking water according to Federal and State laws. Our tables show the results of monitoring for the period of January 1<sup>st</sup> through December 31<sup>st</sup>, 2002.

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## Results of Water Testing

The following tables present results of some of the approximately 120 tests made. Not all testing is reported here. We test for many chemicals that were not detected at a level high enough to be reported. Additionally, the State requires us to monitor for certain contaminants less frequently than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. The results shown are from the most recent testing and test dates are noted. If you have a specific question about a contaminant you do not see listed, we invite you to call our office.

In the table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

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

**Maximum Contaminant Level (MCL)** – the “Maximum Allowed” is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as is feasible using the best available treatment technology.

**Maximum Contaminant Level Goal** – the “Goal” (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Michromhos ( $\mu\text{MHO}/\text{cm}$ )** – a measure of the electrical conductivity of water.

**Parts per billion (ppb) or Micrograms per liter ( $\mu\text{g}/\text{l}$ )** – one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**Parts per million (ppm) or Milligrams per liter ( $\text{mg}/\text{l}$ )** – one part per million corresponds to one minute in two years or a single penny in \$10,000.

**Picocuries per liter (pCi/L)** – a measure of the radioactivity in water.

**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.

**Treatment Technique (TT)** – a Treatment Technique is a required process intended to reduce the level of a contaminant in drinking water.

**Turbidity Unit (TU)** – a measure of the clarity of water. Turbidity in excess of 5 TU is just noticeable to the average person.

<b>TEST RESULTS FOR PRIMARY CONTAMINANTS – ACC TANK</b>							
Contaminant / Unit of Measurement	Violation Y/N	Level Detected	Range	MCL	PHG (MCLG)	Test Date	Likely Source of Contamination
<b>Radioactive Contaminants</b>							
Gross Alpha (pCi/L)	YES*	17.63	12-24	15*	N/A	4, 7 & 10/00 5/02	Erosion of natural deposits
Uranium (pCi/l)	N	19	13-26	20*	N/A	1, 4, 7 & 10/00	Erosion of natural deposits
<b>Inorganic Contaminants</b>							
Arsenic (ppb)	N	7.2	7.2	50**	N/A	5/02	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Fluoride (ppm)	N	.28	.28	2	1	5/02	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (ppm)	N	6.67	6.67	45	45	5/02	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
<b>Lead and Copper</b>							
Contaminant	Violation	90 <sup>th</sup> Percentile	# Sites Above AL	AL	90 <sup>th</sup> Percentile Goal	Total # Sites Sampled & Year	Likely Source of Contamination
Lead (ppb)	N	<5	0	15	2	2002	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers, erosion of natural deposits
Copper (ppm)	N	.2	0	1.3	.17	2002	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
<b>Regulated Contaminants with no MCLs</b>							
Bromodichloromethane (ppb)	N/A	<.1	<.1	N/A	N/A	5/99	Unregulated contaminant monitoring helps EPA and the California Department of Health Services to determine where certain contaminants occur and whether the contaminants need to be regulated. No MCLs have been set at this time.
Bromoform (ppb)	N/A	<.5	<.5	N/A	N/A	5/99	
Chloroform (ppb)	N/A	<.1	<.1	N/A	N/A	5/99	
Dibromochloromethane (ppb)	N/A	<.5	<.5	N/A	N/A	5/99	

<b>PRIMARY CONTAMINANTS – MCE TANK</b>							
Contaminant / Unit of Measurement	Violation Y/N	Level Detected	Range	MCL	PHG (MCLG)	Test Date	Likely source of contamination
<b>Radioactive Contaminants</b>							
Gross Alpha (pCi/l)	YES*	22.38	21-23.5	15*	N/A	4, 7 & 10/00 5/02	Erosion of natural deposits
Uranium (pCi/l)	YES*	20.75	18-23	20*	N/A	1, 4, 7 & 10/00	Erosion of natural deposits
<b>Inorganic Contaminants</b>							
Arsenic (ppb)	N	3.2	3.2	50**	N/A	5/02	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Fluoride (ppm)	N	0.11	0.11	2	1	5/02	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (ppm)	N	4.5	4.5	45	45	5/02	Runoff and leaching from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

<b>Lead and Copper (MCE Tank continued)</b>							
Contaminant	Violation	90 <sup>th</sup> Percentile	# Sites Above AL	AL	90 <sup>th</sup> Percentile Goal	Total # Sites Sampled & Year	Likely Source of Contamination
Lead (ppb)	N	<5	0	15	2	10 2002	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers, erosion of natural deposits
Copper (ppm)	N	.2	0	1.3	.17	10 2002	Internal corrosion of household plumbing systems; erosion of natural deposits, leaching from wood preservatives
<b>Regulated Contaminants with no MCLs</b>							
Bromodichloromethane (ppb)	N/A	5.4	5.4	N/A	N/A	5/99	Unregulated contaminant monitoring helps EPA and the California Department of Health Services to determine where certain contaminants occur and whether the contaminants need to be regulated. No MCLs have been set at this time.
Bromoform (ppb)	N/A	.66	.66	N/A	N/A	5/99	
Chloroform (ppb)	N/A	1.6	1.6	N/A	N/A	5/99	
Dibromochloromethane (ppb)	N/A	1.4	1.4	N/A	N/A	5/99	

***\*About our violations...***

**Gross Alpha:** Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

**Uranium:** Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.

Our Environmental Health Department, working in conjunction with the California Department of Health Services, has advised us that when Gross Alpha readings result from the decay of uranium deposits, as is the case in Ahwahnee, the water is safe to drink at levels up to 25 pCi/l. Since our test results were below that level, no health warnings are warranted.

**\*\*You may have heard that the EPA recently reduced the MCL and MCLG for Arsenic.** The new MCL (set at 14.4 ppb) and MCLG (set at 0) does not become mandatory until January 23, 2006 to allow for the installation of any needed treatment facilities.

**Secondary standards** have been set to protect against unpleasant aesthetic effects such as color, taste, odor and the staining of plumbing fixtures (e.g., tubs and sinks) and clothing while washing. These do not pose a risk to public health and communities may decide whether or not to treat for them.

<b>Secondary Standard Contaminants – ACC Tank</b>							
Contaminant	Violation	Level Detected	Range	MCL	PHG (MCLG)	Test Date	Likely Source of Contamination
Chloride (ppm)	No	57.2	57.2	500	N/A	5/02	Leaching from natural deposits; industrial wastes
Color (Units)	No	<5	<5	15	N/A	5/02	Naturally occurring organic materials
Corrosivity	N/A*	-.83 Moderately aggressive	-.83	Non-Corrosive	N/A	5/02	Natural or industrially-influenced balance of hydrogen, carbon and oxygen in the water, affected by temperature and other factors
Specific Conductance (µMHO/cm)	No	270	270	1600	N/A	5/02	Substances that form ions when in water; seawater influence
Sulfate (ppm)	No	8.3	8.3	500	N/A	5/02	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	No	260	260	1000	N/A	5/02	Runoff/leaching from natural deposits
Turbidity (TU)	No	.1	.1	TT	N/A	5/02	Soil runoff
Zinc (ppm)	No	<.05	<.05	5.0	N/A	5/02	Runoff/leaching from natural deposits; industrial wastes

Secondary Standard Contaminants – MCE Tank							
Contaminant	Violation	Level Detected	Range	MCL	PHG (MCLG)	Test Date	Likely Source of Contamination
Chloride (ppm)	No	23.6	23.6	500	N/A	5/02	Leaching from natural deposits; industrial wastes
Color (Units)	No	<5	<5	15	N/A	5/02	Naturally occurring organic materials
Corrosivity	N/A*	-1.61 Moderately aggressive	-1.61	Non-Corrosive	N/A	5/02	Natural or industrially-influenced balance of hydrogen, carbon and oxygen in the water, affected by temperature and other factors
Specific Conductance (µMHO/cm)	No	170	170	1600	N/A	5/02	Substances that form ions when in water; seawater influence
Sulfate (ppm)	No	4.78	4.78	500	N/A	5/02	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	No	190	190	1000	N/A	5/02	Runoff/leaching from natural deposits
Turbidity (TU)	No	.1	.1	TT	5	5/02	Soil runoff
Zinc (ppm)	No	.3	.3	5	N/A	5/02	Runoff/leaching from natural deposits; industrial wastes

\*Corrosivity is somewhat tied to Lead and Copper in that, if the 90<sup>th</sup> percentile of lead and copper levels exceeded the AL, it would indicate that the Corrosivity of the water was causing leaching of the copper, lead, or lead-soldered joints of plumbing systems. While Corrosivity does fall into the moderately aggressive category, we do not have elevated levels of lead or copper; therefore, no treatment is necessary at this time.

You may also be interested in these **Unregulated Contaminants**. No MCLs, PHGs or MCLGs have been established.

Other Unregulated Contaminants				
Contaminant	Test Date	Range	Results-ACC	Results-MCE
Alkalinity – ppm		111-117	117	111
Bicarbonate – ppm		81-110	110	81
Boron – ppm		.1 - .3	.3	.10
Calcium – ppm	All tests were performed on 5/21/02.	20-29	29	20
Magnesium – ppm		<2 - 4	<2	4
PH		6.8-7.6	7.6	6.8
Potassium – ppm		2-3	2	3
Sodium – ppm		35-68	68	35
Total Hardness (as CaCO <sub>3</sub> ) – ppm		65-69	65	69
Vanadium – ppb		ND - 6	ND	6

### Summary:

As shown by the tables, the Ahwahnee system had two violations: the concentration of Gross Alpha particles and Uranium. Analysis of both ACC and MCE tanks lead to the conclusion that the MCL for both was exceeded system-wide. We have no plans for gross alpha/uranium treatment facilities at this time.

### Other Information

A source water assessment was conducted for all six Ahwahnee wells in May 2002. While no contaminants, other than those occurring naturally, were found, the assessment identified local septic systems and activities at the golf course as having the potential for outside contamination. A copy of the complete assessment may be viewed at the Madera County Environmental Health Department, by visiting the State's website, [www.dhs.ca.gov/ps/ddwem/technical/dwp/source\\_info/source\\_index.htm](http://www.dhs.ca.gov/ps/ddwem/technical/dwp/source_info/source_index.htm), or by requesting a summary of the assessment from Wayne Fox, of Environmental Health, at (559) 675-7823.

In our continuing efforts to maintain a safe and dependable water supply, it may be necessary to make improvements to the water system. The costs may be reflected in the rate structure, because rate adjustments may be necessary in order to make these improvements.

We hope you find this report informative and helpful. Please call our office if you have questions. The County of Madera works continually to provide the best available water to every tap. We ask that you, our customers, help us protect our water sources. Water is the heart of our community, our way of life and our future.

**Noticia a Los Clientes Que Solo Hablan Español**

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