

Annual Drinking Water Quality Report

Madera County Maintenance District 6

Lake Shore – 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.

Your water is supplied by two deep wells; drawing from fractured rock approximately 450 feet below the earth's surface. During 2002, testing revealed violation of the EPA's MCL for three primary contaminants. More information is given below. **We do not recommend drinking water from this system.**

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.

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 1st through December 31st, 2002.

Results of Water Testing

The following tables present results of some of the approximately 70 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 (μ MHO/cm) – a measure of the electrical conductivity of water.

Parts per billion (ppb) or Micrograms per liter (μ g/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 (mg/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.

TEST RESULTS FOR PRIMARY CONTAMINANTS							
Contaminant / Unit of Measurement	Violation Y/N	Level Detected	Range	MCL	PHG (MCLG)	Test Date	Likely Source of Contamination
Radioactive Contaminants							
Gross Alpha (pCi/L)	YES*	154	119-183	15	N/A	1,4/7&10/00	Naturally present in the environment.
Uranium (pCi/L)	YES*	155	130-170	20	N/A	1,4,7&10/00	Erosion of natural deposits

TEST RESULTS FOR PRIMARY CONTAMINANTS continued...							
Inorganic Contaminants							
Arsenic (ppb)	YES**	61.9	52-74.6	50	N/A	2,4,7&10/02	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Fluoride (ppm)	N	.64	.64	2	1	4/02	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Lead and Copper							
Contaminant/ Year Tested	Violation	90 th Percentile	# Sites Above AL	AL	90 th Percentile Goal	Total # Sites Sampled	Likely Source of Contamination
Lead (ppb) / 2002	N	<5.5	0	15	2	5	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers, erosion of natural deposits
Copper (ppm) / 2002	N	.15	0	1.3	1.7	5	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

About our violations:

***Gross Alpha and Uranium:** Certain minerals are radioactive and may emit forms of radiation known as photons and alpha radiation. Some people who drink water containing uranium or alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer. This water continues to test high for gross alpha and uranium due to the erosion of natural deposits.

****Arsenic:** Some people who drink water-containing arsenic in excess of the MCL over many years may experience skin damage or circulatory system problems, and may have an increased risk of getting cancer. Arsenic is a naturally occurring mineral known to cause cancer in humans at high concentrations. 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.

We are currently exploring several options to address the levels of Gross Alpha, Uranium and Arsenic. The options identified to date include treatment of the ground water or switching to the use of surface water with appropriate treatment to allow for its use. You can expect to hear more about this in the future.

Secondary standards have been set to protect you 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.

Secondary Standard Contaminants							
Contaminant	Violation	Level Detected	Range	MCL	PHG (MCLG)	Test Date	Likely Source of Contamination
Chloride (ppm)	No	54.1	54.1	500	N/A	4/02	Leaching from natural deposits; industrial wastes
Color (Units)	No	<5	<5	15	N/A	4/02	Naturally occurring organic materials
Corrosivity	N/A*	-.61 Moderately aggressive	-.61	Non-Corrosive	N/A	4/02	Natural or industrially-influenced balance of hydrogen, carbon and oxygen in the water, affected by temperature and other factors
Iron (ppb)	No	100	100	300	N/A	4/02	Leaching from natural deposits; industrial wastes
Manganese (ppb)	Yes**	172	172	50	N/A	4/02	Leaching from natural deposits
Specific Conductance (µMHO/cm)	No	440	440	1600	N/A	4/02	Substances that form ions when in water; seawater influence
Sulfate (ppm)	No	10.3	10.3	500	N/A	4/02	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	No	320	320	1000	N/A	4/02	Runoff/leaching from natural deposits
Turbidity (TU)	No	.75	.75	TT	5	4/02	Soil runoff
Zinc (ppm)	No	.2	.2	50	N/A	4/02	Runoff/leaching from natural deposits; industrial wastes

*Corrosivity is somewhat tied to Lead and Copper in that, if the 90th 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.

**Manganese was found at a level that exceeds the secondary MCL of 50 ppb. The high levels are due to leaching of natural deposits. Violation of this MCL does not pose a risk to public health.

These **Unregulated Contaminants** may also be of interest to you. No MCLs, PHGs or MCLGs have been established.

Other Unregulated Contaminants...			
Contaminant	Test Date	Range	Result
Alkalinity – ppm		202	202
Bicarbonate – ppm		176	176
Boron – ppm	All tests were done on 4/09/2002 and 10/2102.	.6	.6
Calcium – ppm		70	70
Magnesium – ppm		5	5
pH		7.2	7.2
Potassium – ppm		2	2
Sodium – ppm		47	47
Total Hardness (as CaCO ₃) – ppm		153	153

Summary:

As you can see by the tables, our testing revealed violations in three primary areas, as well as one secondary violation. The source water for this system has consistently contained levels of Gross Alpha, Uranium, and Arsenic higher than the EPA’s MCL. Long-term exposure to contaminants in concentrations above the MCL has been determined by the EPA to lead to a higher incidence of cancer. Although we are studying several possibilities, no system improvements are planned at this time. **WE DO NOT RECOMMEND THAT YOU DRINK WATER FROM THIS SYSTEM.**

Other Information

A source water assessment was conducted for both Lake Shore wells in July 2002. While few contaminating activities were noted due to the remote location of the wells, the assessment identified other wells in the area as having potential for outside contamination. Your system is already subject to a quarterly “DO NOT DRINK ADVISORY” due to the presence of naturally occurring contaminants. 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, 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 in your 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.