

MELODY WOODS WATER CO. WATER QUALITY REPORT 1997

Mission

As we have stated in the past, the mission of ALL water suppliers is to provide **safe, aesthetically pleasing** water to its customers **at a reasonable cost**. The first priority is the provision of **safe** water, free from bacteria, viruses and other health hazards. The Melody Woods Water Co. (the company) has satisfied this mission in 1997.

Legal Requirements

The U.S. Congress passed the SAFE DRINKING WATER ACT in 1974 and has amended it several times since then. Basically, this empowers the U.S.E.P.A. to set standards and operating guidelines for all public drinking water systems. The E.P.A. has delegated these responsibilities to California and all our interaction is through the California Dept. of Health Services.

Critical Testing

Since **safe drinking water** is the priority of the Company, there are two critical components that are important to what the state calls "acute risks". Acute risk is defined as an immediate health problem rather than a long-term development. The critical components for acute risk are pathogens and nitrates.

Pathogens are disease-causing organisms that may be present in the water supply. The company is required by the State to have tests for the presence of pathogens in our water performed every month by a state certified laboratory and a report of these results forwarded to the Dept. of Health.

In 1997 we had one indication of pathogen presence. This can be caused by several factors; there are pathogens present, improper sampling techniques, or laboratory errors.

To confirm that the drinking water is safe when the laboratory results are positive, we are required to repeat the tests within 24 hours, testing at the same point that showed the initial positive result, at 2 points upstream and 2 downstream. These additional sample requirements must be performed again in the following month. Additional tests were performed, as required, and there were no positive indications of pathogens present. Consequently, the water is considered to be free of pathogens.

We are required to have our source water tested each year for nitrate and every 3 years for nitrite.

In 1997 we were required to only sample and report on the nitrate levels from wells 2 and 3.

In addition to satisfying the state's requirement, the Company also elected to have the system water tested since it is made up from more than one source and more representative of what we drink.

The **Maximum Contaminant Level (MCL)** for nitrate is 45 parts per million (ppm). The nitrate level for Well 3 was 4.8 ppm and 0.10 ppm for Well 2. Delivered water showed 1.0 ppm.

Source Testing

The state stipulates that every three years our source of water (wells 2 & 3) have a complete analysis for inorganic, mineral, physical characteristics and organic characteristics unless waived by them. These tests must be conducted by a state certified laboratory. In addition, radioactive characteristics must be measured and reported every four years. Radioactive characteristics were tested in 1994 and inorganic, mineral and physical characteristics were tested in 1995 and showed that all requirements were satisfied except for the iron level in well 2 which had 1.7 ppm (MCL is 0.3ppm). Well 2 supplies less than 10% of our water, so this was not considered to be a problem.

In 1997, in addition to the nitrate, we were required to monitor and report on Volatile Organic Chemicals for wells 2 and 3.

The results indicated no detected organics and the nitrate results are discussed above.

The complete analysis is contained in a number of pages of data. Rather than include these in this report, we will make the results available to any member who requests them. Should you be interested, contact either Dale Pennington at 353-2556 or Tom Gray at 353-3750.

Disinfection

The company uses a hypochlorination process for treating its delivered water. This is a simple process that puts enough chlorine into the water to "kill the bugs", reduce/remove organics and inorganics (called chlorine demand) and still have enough chlorine left (called free residual chlorine) to disinfect the distribution system. State recommends at least 0.5 parts per million (ppm) free residual chlorine at the distribution start point and 0.2 ppm at the remote point in the system.

In 1997, the average chlorine concentration at the line's end was 0.41 ppm. The maximum value was 1.0 ppm and a minimum of 0.3 ppm.

Lead and Copper Rule

There are some contaminants considered to be of special concern due to their potential health hazards. Of major concern to us is the **Lead and Copper Rule**. The EPA has established **Action Levels (AL)** for these two contaminants but, unlike monitoring contaminants in the supplied water, these levels are to be monitored at the water tap in the user's home. This means that the home plumbing is an integral part of the monitored system. In fact, the home plumbing becomes the dominating factor in most systems.

The company is required to get a representative sampling of the water system users' AL's for these contaminants with sampling priority given to the most likely problem sites.

Because we have satisfied the minimal requirements for the past 3 years, testing was reduced to only 5 homes in 1997. Tests for both copper and lead showed that we met the AL requirements.

Additional Sampling

In an effort to plan for potential future regulations and to gain a better insight into our system, we have performed additional testing of our water not required at this time by the state. Parameters measured are; pH, temperature, alkalinity, iron, manganese, taste, appearance and odor. These tests are performed by the Company without an outside laboratory. Tests are performed on water samples taken at the system inlet (the 88K gallon tank).

Results are:

<u>Component</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>	<u>Suggested MCL</u>
pH	6.85	7.10	6.52	6.5 to 8.5
Temp	60F	67F	50F	None
Alkalinity	228ppm	280ppm	180ppm	50 to 150ppm
Iron	0.23ppm	0.40ppm	0.10ppm	0.30ppm
Manganese	0.55ppm	NA	NA	0.050ppm

Taste, appearance and odor at the sample point have consistently been good. There have been no reported complaints about the taste and odor. We have had several times when "dirty" water has been reported. Corrective action taken so far has been to flush the delivery lines. We have routinely flushed the system about every 4 to 5 weeks in 1997. This has reduced the incidence of "dirty" water but is costly since we use a significant quantity of water in this process.

The "dirty" water results mainly from the presence of iron and manganese in our water. This seems to be a common problem for all water systems in our area. Neither of these components present a health hazard at the levels present, but can cause staining of clothes and plumbing fixtures and the water is not physically appealing. We have managed to reduce the iron to an acceptable level but are still working on the manganese problem. This is a difficult component to remove. We have consulted with the State, the American Water Works Association (AWWA), and other water systems in our attempt to solve the problem.

Additionally, we have conducted tests to determine which of the various alternatives available offer us the best and least costly approach to solving the problems. Results thus far are promising and we are hopeful that the problem will be solved in 1998.

Tom Gray
December 22, 1997

