FRANK WALTER AND ASSOCIATES

Civil Engineering and Land Surveying
105 So. Stewart St. Sonora, California 95370
(209) 532-5173
December 26,1989

Odd Fellows Park Water Company
c/o Dale Smith
P.O. Box 116
Long Barn, California 95335

Dear Mr. Smith,

We have reviewed the results of water tests on the sources of supply for your system. The results can be summarized by stating that a substantial portion of the well water supply has iron and manganese or both in excess of the State of California requirements. The presence of high amounts of iron and manganese may be a potential nuisance to your customers. The nuisance may take the form of staining of sinks and fixtures. Automatic dishwasher operation may be adversely affected and glasses may be coated. In some cases the water may be turbid due to precipitation of iron in the water. Some parts of the system may develop taste and odor problems due to activity of iron loving bacteria.

The ultimate solution to the problem could be the construction of a treatment system at each well which has excessive iron or manganese. If a treatment system were to be installed at the largest well to treat 45 to 50 gallons per minute you might be able to get along without treating the other wells because the treated water would dilute the iron and manganese from the remaining untreated wells. You could limit the use of smaller wells in order to secure a blend of water with an acceptable low level of minerals. One possible problem with this scheme would be that customers in the immediate vicinity of an untreated well might occasionally get a dose of iron laden water which has not been mixed with treated water.

The existence of iron and manganese in well water is not considered to be a matter of concern for health reasons and your customers may choose to put up with occasional nuisance aspects. We understand that you have not had complaints although there has been one reported odor problem which was probably caused by the iron or manganese.

The cost of removing iron and manganese will vary with the quantity of water to be treated. If you were to treat 45 gpm from the larger well we estimate the cost of the required facility to be in the neighborhood of $20,000 to $30,000, depending on site specific details and the type of building construction. The well driller's report indicates that higher production may be possible with a bigger pump so it might be a good idea to build a structure which would allow for future expansion of the treatment system. With a larger building the cost would be more than $20,000. Before we prepare any detailed plan for this type of improvement the company may wish to consider another alternative.

You could send out a notice to all of your customers advising them of cost of removing the iron and manganese and asking them if they want to spend the necessary money. We understand that you have 325 customers at present so the cost per customer would be in the range of $62.00 to $95.00 for the treatment of the best well.

The proposed improvement would utilize a pressure filter with a special media which would remove iron, manganese and hydrogen sulfide.

We suggest that you might send a copy of this letter to each customer along with a ballot form so that your customers can vote on this issue. A sample ballot form is enclosed.

Very truly yours,
FRANK WALTER AND ASSOCIATES
s/ R. F. Walter
Land Surveyor
Civil Engineer

RFW/mmw

B.O.D. note: Ballots will be sent first class mail. Remember that if you do not vote, Calif. law counts it as a yes vote.