City of Montague Public Works Department
P.O. Box 428, Montague CA 96064
Phone: 530-459-5204
Fax: 530-459-0327
Email: montaguepubwks@sbcglobal.net

February 21, 2014

Dear Editor:

The following is in response to the Siskiyou Daily News headline news article of February 18 entitled "Montague's water contamination increases". Since I was not contacted by SDN prior to your printing the story, I was unable to provide background material or explanations which may have been of interest and more completely informed your readers. I would like to provide some of that information now.

Had a reporter contacted me, I would have explained that Montague does not enjoy the high quality water sources common to most other Siskiyou County communities. Most Montague residents know that water has been reliably supplied by the Montague Water Conservation District for over 80 years. This water is conveyed through MWCD canals to Montague from the Little Shasta River in the winter and Lake Shastina in the summer. The City then treats and distributes the water.

I could have mentioned to the reporter that trihalomethane (THM) production is based primarily on three things, the total organic carbon (TOC) level in the water, the chlorine concentration, and the length of time that the chlorine is in contact with the water. Montague's water has relatively high levels of TOC. TOC comes mainly from algae and decaying vegetation. There is an abundance of both in the warm water of Lake Shastina and the unlined MWCD canals. Though the particulate matter is removed during the treatment process, the molecular portion (referred to as dissolved organic carbon or DOC) remains. It is this DOC which combines with the chlorine to form the trihalomethanes. We use a sufficient amount of chlorine to insure adequate disinfection of the drinking water and comply with regulations. The water is pumped to the storage tank and then gravity fed into the distribution system. The detention time in the tank and distribution system can be as little as 2 or 3 days in the summer to over a week in the winter. These long detention times and recent drought years (which tend to increase TOC) serve to increase the production of trihalomethanes. The new storage tank (constructed in 2007) is both a blessing and a curse, as it allows for more storage but causes an increase in THM levels.

THMs became an issue when they were discovered to be in drinking water in the 1970s. Prior to that time the technology was not available to analyze compounds at the parts per billion (ppb) level. So though the THMs have been in chlorinated surface water all along, the industry was unable to detect them, thus no research into their possible effects was done. Regulations were developed by EPA in the 1980s and a level of 100 ppb was set as the Maximum Contaminant Level (MCL). This regulation applied only to large water systems, small ones such as Montague were exempted. Later the EPA lowered the MCL to 80ppb and in 2003 applied the regulation to all water systems. While our present level of THMs exceeds the MCL, the significant safety factor built into the regulation should provide sufficient buffer as regards to health concerns. The notice of MCL failure that Montague residents receive is a template developed by EPA and incorporates all the mandatory health related and legal language.

Through the years the City Council has been kept abreast of the regulatory changes regarding THMs. An application was originally submitted to the State Revolving Loan Fund in 1998 (5 years before the regulation went into effect) to deal with this problem. We were told at the time that since the regulation did not apply to Montague we were not out of compliance even though our THM levels exceeded the

MCL. Since we were not out of compliance our chances of being funded were slim. Along the way, we applied for funds through Prop 50, but faced the same dilemma. Fast forward to 2008. The City was finally invited to submit a full application for funding through SRF. With the help of California Dept. of Public Health, the California Rural Water Association, Waterworks Engineers (design engineers) and Bray and Associates Engineers (City Engineer), the City was able to submit full applications (each about 3 inches thick) which allowed us to secure funding. Between 2008 and 2013 numerous changes in the grant/loan programs took place which greatly benefited Montague. We were able to obtain a $500,000 grant (another application) for preliminary engineering and design. Then we received a $3.0 million grant from SRF and a $2.0 million grant from Prop 50 as well as an $850,000 no interest 30 year loan from SRF to upgrade the treatment plant and successfully deal with the THM problem. You can see THMs are not cheap.

Had I been able to talk to a reporter, I would have suggested that they visit the treatment plant now under construction and would have explained all the new processes being installed. There will be improvements to the chemical feed, coagulation, flocculation, sedimentation (large particle removal) processes. Sludge removal and dewatering equipment (which we have never had before) will be installed. A state of the art membrane filtration system (small particle removal) will replace the old pressure sand filters. New granular activated carbon filters will be added. These will remove a portion of the DOC discussed previously as well as help with our summer problems with taste and odor. An aeration system will be installed in the storage tank to provide mixing as well as help remove THMs as they develop. All these improvements should allow Montague to easily meet all the existing drinking water regulations. We should see some improvement with our taste and odor problem, though that can get very costly so we will be balancing the treatment vs benefit. Unfortunately we are unable to control the warm temperature of the water during the summer months. Keeping a container filled with water in the refrigerator will prove to be much more refreshing.

This is the abbreviated version of the THM problem and our solutions.

I also must comment on the letter to the editor, also on February 18, from Ms.Deppen (which also garnered some nice big headlines). Ms. Deppen obviously read the violation notice however did not choose to contact me prior to writing her letter (though my name and phone number is included on each violation notice). Had she called me, I may have been able to provide her with some of the material discussed above and allowed her to become more informed. It is understandable that she does not fully grasp the difficulties of dealing with her suggestions about changes to Lake Shastina. Factors such as geology, hydraulics, economics, environmental and legal problems tend to block the way. The City did review several different options as alternative water supplies prior to going forward with the present project. All alternatives considered were either unavailable, too costly and/or had legal issues which put them out of reach. The City felt that the demonstrated reliability of MWCD water was the best way to proceed. Unfortunately, the recent Riverkeepers lawsuit, which accomplished little, depleted MWCD resources substantially and put them in a tenuous financial position. We will hope for the best.

As always, I can be reached by contacting the Public Works Dept. at 459-5204 and leaving a message. I'm more than willing to talk to SDN reporters, Ms. Deppen or anyone else wishing to become more informed about Montague's water challenges. I appreciate all the patience, understanding and support we've received from the Montague residents over the years in dealing with this problem.

Respectfully,

Chris Tyhurst
Treatment Plant Supt.