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July 15, 2010

Kent Bargman  
City of Marysville  
209 North 8<sup>th</sup> St.  
Marysville, KS 66508

Re: Water loss survey

Dear Kent;

This letter is in follow up to my visit to your city to assess the possibility of a leak on a line causing water in a backyard of the residents at 1208 and 1210 Otoe Street.

During the water loss survey I was able to detect a possible small leak when listening to the services to 1300 Otoe and 1305 Otoe. I estimate this leak to be less than one gpm. I did a contact survey on the services from 12<sup>th</sup> Street to 14<sup>th</sup> Street and from Debbie Lane south to Ann Street. I did not detect any leaks other than that mentioned. KRWA Tech Greg Duryea was able to also confirm my opinion on whether this leak could be causing the amount of water in the backyard. Greg and I were of the same opinion; we do not believe this leak produced enough sound to cause the amount of loss that we saw in the yard. Regardless, the leak needs to be located and repaired. Greg advised me to get the correlator and try to pinpoint the leak. I will be in touch as soon as the correlator is available.

Greg and I did a little investigation down by the creek behind the houses and found a small amount of water coming from the storm drain outlet. With no rain lately, and with no water in the gutters nearby, we wonder if this drainage could be coming from the leak we had heard with the sonic equipment.

As for the city crew getting a positive sample for chlorine in the pools of water in the back yard, it is possible to obtain a false positive in situations such as this. When taking a sample of ground water, it may not be valid if does not turn instantly as it does when conducting daily tests. When we conducted a chlorine test there it did register a 2.9 mg/l but it took several minutes to turn pink. The longer I held the sample, the stronger it became. This was likely due to a reaction with something naturally in the water versus it being chlorine. It is unlikely to have a chlorine residual in the water after running through the ground very far unless the residual is very high to start or the leak is very large.

I enjoyed the opportunity to work with you on this and look forward to working with you in the future. If you have any questions please feel free to call me at 785-541-0342. Also, visit the KRWA website at [www.krwa.net](http://www.krwa.net) for news and information concerning water and wastewater utilities, training opportunities and other KRWA programs.

Again, thank you for the opportunity. I will be in touch as soon as our correlator equipment is available.

Sincerely,

Greg Metz  
Technical Assistant

c: Rick Shain, City Administrator  
Jim Mueller, Public Works Director