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A "Well" Of A Problem

I became interested in this project because the arsenic concentration of our house well exceeds the EPA maximum contaminate level. We have installed a reverse osmosis filter on our drinking water source that removes the arsenic. By doing this experiment, I thought I could provide useful information about arsenic concentrations at different well depths in Alamosa County. I was hoping to find a correlation between arsenic concentrations and well depth. If there was a strong correlation, well drillers could target a certain depth of well to produce safe water and it would be less costly than filtering the water. With help from the staff of the Sangre de Cristo Lab in Alamosa, I found the data did not fully support my hypothesis. I used a Perkin Elmer 3110 atomic absorption spectrometer to test my hypothesis. I found that the majority of my results did support my hypothesis even though the deepest well did not have the highest arsenic concentration. On the average, the deeper wells did have higher arsenic levels. The shallower wells on the average had lower arsenic levels, although, the shallowest did not have the least arsenic. I found in my research there are possible health risks associated with arsenic in drinking water that could present a problem if consumed for a lifetime. On the other hand, I found health spas touting the merits of arsenic in their water that is hypothetically thought to promote good health. In conclusion, I've learned a lot about arsenic in Alamosa County and hope that my experimentation will be useful for the public.