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*How Safe Is Your Groundwater?*

This project was to determine how significant the effects of oil and gas drilling within a 3 mile radius would contaminate a landowner's groundwater via their well. In addition would there be a presence of unknown bacteria or measurable levels of mineral contaminates. A sample from each well was obtained in a sterilized container; temperature of the sample was recorded. The samples were taken to a medical lab to incubate for bacteria growth. After the 48 hour time period passed the samples that grew bacteria were gram stained and bacteria identified. A new sample from each well was collected in a sterilized container and taken to a research facility to use an atomic absorption spectrometer. Each sample was processed and minerals were identified and recorded. Chlorine and pH levels were collected and recorded. Two water samples had a trace of bacteria specimen. I was able to determine that the specimen was a gram negative rod. The specific identification of the bacteria was an oxidasa positive presumptuous pseudomonas. I was able to determine that it was a gram negative rod, specific identification was inconclusive. I was able to identify the levels of contaminates were higher than the control of tap water, but were still within the safe consumption limits set by the Environmental Protection Agency (EPA). The data results and analysis indicate that groundwater contamination is occurring within this three mile radius of drilling, although not all samples were conclusive for contamination.