The Effects of Hydraulic Fracturing on Ground Water and Tap Water in the Bakken Formation

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Hydraulic fracturing, or fracking, describes the recovery of natural gas from deep layers inside the earth. In this method, porous rock is fractured by the use of water, sand, and chemicals in order to release the natural gas. There has been controversy over this method after it was linked to contamination in Texas, New Jersey, New York, and Pennsylvania. This project looks at whether fracking is affecting groundwater resources in the Bakken formation. The water was tested for total dissolved solids, dissolved methane, and oil and grease. It was hypothesized that fracking does have an effect on the ground water and that the tap water was able to be successfully treated at a treatment plant. The results show high levels of total dissolved solids for sites within a one mile radius of a fracking site. The levels of total dissolved solids were significantly lower for the sites that were more than a one mile away radius and for the tap water. The water had more oil and grease in the sites more than a mile radius of a fracking site. The levels show little difference in the sites that were within one mile radius of a fracking site and the tap water. The methane the results were higher in sites within one mile radius of a fracking site and the tap water samples. They significantly lowered in sites that were more than a mile radius away from a fracking site.

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