

**FILED**

**Oct 01, 2012**

Jim Ruby, Executive Secretary  
Environmental Quality Council

Rodney Knudson  
PO Box 25  
145 Bush Street  
Hulett, WY 82720  
September 28, 2012

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Nancy Nuttbrock  
Administrator, Land Quality Division  
Wyoming Dept of Environmental Quality  
122 W. 25<sup>th</sup> St.  
Cheyenne, WY 82002

Dear Ms Nuttbrock,

I am concerned about Strata's in-situ leach mining proposal referred to as the Ross Project located close to Oshoto, WY. I have been interested in uranium mining since 1981 since I attended a two week workshop at Boulder, CO entitled "Radiation and Human Health". I was teaching HS physics at the time. My paper dealt with mining and processing uranium. Though the Hauber mine had closed, prospecting for uranium left something less than 6000 bore holes in a swath of land taking in Oshoto to Alladin and that these bore holes were anywhere from 200 to 600 feet deep. It is uncertain if these holes were plugged or capped. A six inch diameter hole 600 feet deep would require more than 4 cubic yards to fill. The degree of uncertainty tends toward the latter. At this point many of these holes are not recorded or obvious.

I have read the 2007 NRC publication entitled "Consideration of Geochemical Issues in Groundwater Restoration at Uranium in-Situ Leach Mining Facilities" to gain further information about this mining process. From this perusal it is apparent that uranium, thorium, radium, radon and all their daughter nuclides as well as arsenic, selenium, vanadium et al are also mobilized when the lixiviant containing NaHCO<sub>3</sub> or an acid like sulfuric acid (depending on the geologic circumstances) is used in combination with an oxidant to place these chemicals in solution. Uranium and these other elements once in solution are able to move with the flow of water in the aquifer, since without the iron pyrite roll front isolating these elements, these elements are free to migrate thereafter unless retrieved by the uptake pipe or experience a reducing environment. The roll front could have taken thousands of years to form in the first place.

Following the cessation of mining a prolonged period of sweeping with multiple pore volumes of water to wash out the lixiviant and the contaminating elements typically can last five or even ten years before the levels of these contaminants are brought down to concentrations close to previous levels. Unfortunately, not all of the lixiviant chemicals can be removed and coupled with recurring oxidations, uranium and the other radioactive and toxic chemicals are repeatedly put into solution long after the attempts at recovery and the millions of gallons of water are used to sweep the aquifer have been used. The example of the Highland (near Douglas) well field cited in the NRC publication mention above left arsenic levels at 30X, selenium at 70X and uranium at 70X baseline levels eight years after the cessation of mining operations.

If this were to happen in the mining area proposed by Strata many more people would be affected than in the Highland area as the population density is far greater. And, because of the numerous bore holes from previous explorations, abundant possibilities exist for excursions from the mined aquifer into other aquifers both horizontally and vertically located. The results of this migration might not be known for months or even years. Since water tests are quite expensive many would be drinking this water

possibly years before the long term repercussions would manifest themselves as cancer clusters and even possibly birth abnormalities. Without potable water land values would also plummet.

In summation, I see this mining operation being fraught with too many risks for the people living in this area and unless the bond is a significant amount of money in comparison to the value of the product mined, the corporation does not sufficiently share in the risk (as if the only risk was monetary).

Sincerely,

A handwritten signature in black ink that reads "Rodney Knudson". The signature is written in a cursive style with a large, prominent 'R' and 'K'.

Rodney Knudson



Mr Rodney G Knudson  
PO Box 25  
Hulett, WY 82720

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