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DEPARTMENT OF

ENVIRONMENTAL CONTROL

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Mr. Gary Konwinski  
 Nuclear Regulatory Commission  
 Uranium Recovery Field Office  
 P. O. Box 25325  
 Denver, CO 80225

Dear Mr. Konwinski:

I am writing to you to express my concern regarding the probability of ground water contamination in the course of on-going and anticipated in situ uranium mining operations in Dawes County, Nebraska. These operations are directed by Ferret Exploration Company of Nebraska with joint venture support from Uranerz USA, Inc. 165 S Union Blvd., Lakewood, CO.

I am personally acquainted with the circumstances which are described herein through my former affiliation with Uranerz. By way of establishing my credentials, I have been an exploration geologist for nearly twenty years. I have been involved in uranium exploration for the past fourteen years. During my employment by Uranerz I had the opportunity to examine the exploration data of the Crow Butte area in the course of my normal duties, and, in fact, my opinion concerning the interpretation of the Crow Butte data was specifically sought by Uranerz management within the last year. I wish to emphasize that this letter is certainly not resultant from anti-mining or anti-uranium sentiment. I am both in favor of a strong mining industry and a healthy nuclear power industry. Rather, I believe that certain aspects of the geology of the Crow Butte uranium deposits have been deliberately overlooked or suppressed so that mining could proceed and profits be gained regardless of the effect upon local ground water quality. In my opinion, such actions ultimately work to the detriment of those of us in mining who make good faith efforts to maintain environmental quality.

As you are aware, geologic interpretation is rarely based upon direct observation of all the necessary data, but rather relies heavily upon indirect evidence and inductive reasoning. Certainly, it can be difficult to arrive at final answers under such conditions. The amount of information that is now available in the general Crow Butte area is great enough to minimize the uncertainty of geologic interpretation to the point that certain probabilities (not possibilities) may be stated.

It is my understanding that geologists of the Nebraska State agencies involved in permitting believed that structural control of the Crow Butte mineralization was likely, but were ultimately dissuaded from that belief by Ferret personnel. In fact, it is my understanding that mining was only allowed to proceed because structural control was finally ruled out. I have no way of knowing exactly what information was used to arrive at that evaluation, but I can state that as a matter of my professional opinion I find it to be highly probable that most, if

not all, uranium mineralization in the Crow Butte area is directly and primarily controlled by near-vertical faults cutting through the area.

The evidence for such faulting may be found only by detailed evaluation of drilling results, and may be summarized as follows:

1. Uranium mineralization occurs in well-defined, NW-SE linear zones (an alternate interpretation relating linear trends to a redox boundary is unlikely since oxidized facies are not present and since the ore zones exhibit such a high degree of "straightness" that a lithologic or chemical boundary could not be the cause).
2. Structure profiles drawn at right angles to mineral trends show abrupt vertical offset of marker beds in a fashion that can only be explained by repetitive faulting after deposition of the marker beds. This faulting corresponds in location to the zones of strongest mineralization.
3. Mineral trends are coincident with and parallel to surficial geomorphic features which are most likely due to fault control of erosional patterns.
4. More subjective interpretations using isopachous and paleomorphologic interpretations are consistent with faulting during (?) and after Basal Chadron deposition.

Mr. Stephen P. Collings of Ferrat and Mr. Karl Kegel, President of Uranerz USA, Inc. were made aware of the likelihood of structural control by means of technical memoranda written in July 1988 by another geologist in the Uranerz organization. This person would have reason to fear retribution if he made his own views known to regulatory agencies. Since I am separated from Uranerz however, I am free to act. Mr. Kegel and Mr. Collings along with Mr. H. Akin, who is the Uranerz Vice President in charge of mining operations, and who has immediate supervisory responsibility on behalf of Uranerz have apparently agreed to suppress general knowledge of the structural interpretation so that mining and exploration may proceed unimpeded.

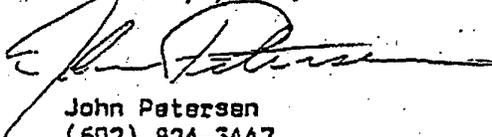
It is true that hardly an area exists that is not somehow affected by faulting. For example, the Uranerz North Butte property in Campbell County, Wyoming is also a potential in situ property. There, certain drill hole data have been suppressed in the preparation of a similarity document (c.f. Ruth) because they indicate, but do not prove, that faults may simply occur. In contrast, the Crow Butte area faults not only exist, but they control mineralization. The significance is obvious. Near-vertical, secondary porosity that is provided by such faults make for natural and effective zones for ground water movement and also for the movement of uranium-laden solvents injected into the ore zone in the course of mining. Under these circumstances, the contamination of suprajacent, and to some extent, subjacent, aquifers becomes possible, if not likely.

It is my understanding that Ferret, with the approval of Uranerz top management, has refused to undertake specifically designed drilling to investigate the significance of the structural control of mineralization. Clearly, Ferret and Uranerz will choose to ignore the existence of faults and their significance in relation to ground water quality unless they are forced to address the issue either by enforcement of regulation, or perhaps, if that is not forthcoming, by public pressure.

I believe that the Nebraska Department of Environmental Control and the Nuclear Regulatory Commission should require specific investigations to evaluate the significance of faulting in relation to ground water quality and that mining should be suspended until it can be shown that uranium mining has not and will not cause ground water contamination.

Unfortunately, I can not provide you with the actual exploration data, being proprietary. If you wish to discuss this letter or my conclusions you may reach me at the number below. I feel that I am ethically bound to report my professional assessment in this matter to you, I hope that it is sufficient to encourage you to seek the kind of detailed information you will need to make your own assessment.

Sincerely yours,



John Petersen  
(602) 824-3447

XC: Nebraska Department of Environmental Control.