

## An Additional Review by I2M Associates, LLC (<http://www.I2MAssociates.com>)

### Key to Comments:

Black = Original Article Content

Yellow = Particular Words or Phrases Requiring our Response.

[Red] = I2M Associates Mining Group Comments

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### Article in Question:

## The EPA has a Duty to Protect Aquifers

By ADAM FRIEDMAN and JIM BLACKBURN  
Houston Chronicle December 28, 2011

In a recent op-ed, the executive director of the Texas Mining and Reclamation Association argued that "inconsistencies in Environmental Protection Agency regulations are hampering our ability to access Texas' uranium reserves and are making it nearly impossible for companies to operate."

We represent Goliad County in a dispute over uranium mining and ground-water contamination, and we challenge the accuracy of that piece.

[Messrs. Friedman and Blackburn are well-known Houston attorneys who specialize in representing groups in environmental lawsuits against large corporations such as mining companies and State government. Note that even in their introduction, they infer a fact (ground-water contamination) that has not been proven or cited by the State of Texas or EPA]

In Goliad County, where one proposed uranium mining operation is seeking EPA approval, groundwater is the sole source for water supply. If the drinking water were to be contaminated by uranium mining, there would be no surface water alternative.

[This is a typical comment made by adversaries of in situ uranium mining. It assumes that the area in and around the ore deposit can produce drinking water of acceptable quality. The aquifer in and around uranium deposits have never contained drinking water of acceptable quality since the formation of the deposit millions of years ago.]

There are about 5,000 water wells used for residential, domestic and livestock purposes in Goliad County. There are approximately 50 wells within 1 kilometer (0.6 miles) of the proposed mining boundary, with many more within two miles.

[These statements give the impression that the uranium mine will pollute all drinking water wells in all of Goliad County, and certainly within 0.6 miles of the deposit. The reader should keep in mind that there have never been any in-situ recovery mines in the U.S. that have experienced excursions of mine fluids that affected any drinking water wells located outside of a regulated mining area.

Additionally, only a fraction of the 50 wells cited could possibly become contaminated, since the majority of wells are either cross-gradient or up-gradient from the uranium orebody and ground-water migration only occurs down-gradient.]

And make no mistake about it - uranium mining is a direct, potential threat to drinking water.

[Once again the attorneys, Messrs. Friedman and Blackburn, infer a fact (contamination of drinking water from wells in the area of the uranium deposit) that has not been proven or cited by the State of Texas and EPA. The purpose of State of Federal regulations is to require regular monitoring of the ground water surrounding the deposit during mining and remediation activities. If an excursion ever occurred, it would be detected quickly and remediated immediately, before there is any contamination of drinking-water supplies in the surrounding area.]

In uranium mining, a mining solution is injected directly into the freshwater aquifer at the same depth of local drinking water wells, releasing uranium and radioactive radium along with other pollutants into the aquifer.

[The mining solution they refer to typically consists of water, oxygen, and carbon dioxide. They also infer that uranium, radium, etc. are pollutants, which in fact they are not since they (the “pollutants”) have not been introduced by humans, but are of natural origin having migrated to their present location from up-gradient over millions of years.]

Although requirements exist that mandate clean-up after mining, variances from clean-up requirements are routinely granted by the Texas Commission on Environmental Quality, the state uranium mining regulator. This, of course, results in far worse water quality after the mining is over.

[This argument is the main objection to solution mining, but the data it uses is dated from the 1970’s, when the last mines were first opened. Back then environmental laws were either weak or non-existent, unlike today. Pre-mining baseline aquifer definition wasn’t established. The general rule was to clean the area to drinking-water standards. This level of cleanup was unreasonable and unobtainable because the baseline would have shown that the areas in and around the deposit were never of drinking-water quality. In fact, the ground water in those areas should never have been used for agriculture or ranching either because of the radiation, uranium, radon, and radium content in the natural ground water.]

Once again the attorneys, Messrs. Friedman and Blackburn, infer a fact (that “worse water quality will exist after the mining is over.”). This has not been proven or cited by the State of Texas or EPA.]

Uranium mining is not like hydraulic fracturing for natural gas, where injection of solution occurs at depth below the water table. Instead, in uranium mining, the aquifer is the target of the mining activity.

[They intentionally attempt to confuse the current news hysteria concerning hydraulic fracturing for natural gas with the injection process used in in situ uranium mining. In fact, there is no fracturing of the aquifer, unlike the designed process used to induce hydraulic fracturing thousands of feet below drinking water aquifers for the purpose of improving shale permeability for gas production. With uranium in situ operations all injected fluids are removed, plus another 1-2% of the introduced volume to assure that all injected fluids remaining in the mining area have been removed.]

The Texas Mining and Reclamation Association's comments are an attempt to apply pressure on the EPA, which has an oversight responsibility under the federal Safe Drinking Water Act (not the Clean Water Act, as erroneously claimed in the association's op-ed). Under this drinking water protection act, any aquifer to be damaged by uranium solution mining must be specifically exempted by the EPA after a scientific review and a formal administrative action. The congressional directive to EPA is clear. The policy priority is to protect groundwater that people use for drinking water purposes.

[The main objection to the EPA's requirement for exemption of the aquifer is based on modeling of the aquifer well before mining recovery operations are begun. Modeling of the aquifer for mining purposes has already been completed at an early stage in mine development and continues throughout the recovery and remediation phases.]

The EPA's requirement to model to the EPA's water-quality standards prior to mine approval was and remains unreasonable. This once was simply a delaying tactic used by the Federal Government 30 years ago when no water-quality standards had been written or approved. In addition, the EPA's requirement to determine hydraulic connectivity with neighboring water wells and proving that mining fluids won't ever reach these wells is yet another delaying tactic and is redundant with other pre-mining studies. No distance from the mine to the furthest well is given, so how many miles out would you need to model? Also, if you've already shown in your models that the mining fluids won't go past the mine boundaries, why model further out? The process required several years for standards to be written and approved. Once again, the attorneys introduce a misleading issue that is out of context with, and irrelevant to, current regulatory matters. It seems obvious here that the attorneys are pressing a political position to confuse the reader, certainly not one established in fact.]

By making this public attack on the EPA, the association has initiated the very "vortex of political games" of which it proclaims to be the victim. More importantly, the association's condemnation of the efforts by the qualified EPA scientists, hydrologists and staff to ensure protection of the citizens of Goliad County is irresponsible.

[The same argument can be said of the professional geologists and engineers who work for the mining companies, and the implication that the EPA is acting pursuant to regulations that are not yet drafted is blatantly incorrect, as the attorneys should know. Shouldn't such attorneys be held to the standards that citizens are in a court of law concerning public misrepresentations?]

The current statute requires that prior to obtaining approval to pollute the aquifer (a so-called aquifer exemption), the applicant for a mining permit must demonstrate that the aquifer "does not currently serve as a source of drinking water." It is pursuant to this requirement that the EPA has requested ground-water modeling to demonstrate that the 50 nearby water wells will not be threatened by contamination of the aquifer where uranium mining is being proposed. In turn, this issue revolves around whether or not the aquifer is directly connected across the property boundary, the speed of movement of the ground water and the distance of the mining activity from these adjacent water wells. Among other things, it requires computer modeling of the aquifer.

[Aside from the misleading statements by the attorneys, the TCEQ already requires a demonstration that the mining solutions will be contained within the exclusion zone and wouldn't approve a permit without it. Demonstration of connectivity to wells outside the area isn't necessary because if the model shows that the mining solutions will stay within the exclusion zone, they'll never reach the wells outside the exclusion zone, so connectivity issues become irrelevant.]

These are hard issues. Thank goodness the EPA has requested scientific support to help it determine whether the proposed mining complies with the law and is protective of human health. This is what it was created to do. And if you lived near this site and used ground water, you would be hoping that it does its job well.

[The EPA is charged with protection of the environment, but should not be involved in political issues. Requiring additional modeling to prove that mining solutions won't go out 0.5, 1, 5, 10, 100, etc. miles from its source when there are already models showing that it won't move past the mine's boundaries is ludicrous and smacks of pure politics from anti-uranium and anti-nuclear adversaries and the attorneys who are engaged by them to speak on their behalf.]

As Texans, we have to protect our water supplies. We cannot afford to waste water. We are transitioning from a time when we could survive waste and contamination to a world suffering from massive demand for resources - both energy and water. We need both. One should not be allowed to destroy the other.

[We agree with these statements, along with motherhood, apple pie, and the American flag, but the general attitude amongst anti-nuclear adversaries appears to be "nothing at any time for any reason."]

The argument the attorneys use once again infers, if not states, to claim a fact (i.e., energy development will destroy water) that has not been proven or cited by the State of Texas or EPA. We already do both quite well, and need to do more of it within the U.S. to decrease our dependence on “foreign” sources of energy.]

We need regulatory agencies that seek answers to hard issues that involve our health and safety. The EPA is doing its job in Goliad County, and we should applaud it rather than attack it. All of us will benefit from policies based on sound science that protect our drinking water and our public health.

[We also agree that rules and regulations are needed to make sure that mining is accomplished according to established standards of science, not “junk science” from government agencies. However, during the past three years we have observed that the EPA, and other agencies, such as NASA, have been used more and more by the President as a method of implementing a political agenda rather than for what these agencies were intended to do, such as, for only a few examples: a) the Federal Government’s decisions to close the Nevada nuclear waste storage facility at Yucca Mountain, b) over-funding of alternative-energy experiments in solar, wind, c) funding of ethanol from corn, and other associated activities, and d) inhibiting the construction of new nuclear plants in the U.S., although e) coal production has recently come under increasing limitations from EPA.]

Original Article:

<http://www.chron.com/opinion/outlook/article/The-EPA-has-a-duty-to-protect-aquifers-2429522.php>

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