Dear Colleagues,

As you know, Subcommittee A of the Mahomet Aquifer Task Force will be preparing a work product identifying potential and current contamination threats to the water quality of the Mahomet Aquifer. The next Subcommittee A meeting is on Monday, May 21. Item 2 on the agenda will be a discussion of the definition of the work product. My thinking is that if we can identify the salient features of the deliverable that we will be off to a good start in meeting our delivery date (which will be in September).

At the most basic level, I would like us to consider what we need to compile and deliver. Clearly the work product should contain a list of threats. In addition, I would like us to consider including a narrative describing the methodology we used to compile the list and a discussion of our understanding of the uncertainties and data gaps that may be present. It is my view that this additional material would be useful to Subcommittee B, stakeholders, and decision makers.

Second, I think we should also consider what we mean by threat. As you know, Rick Cobb has started this discussion with a regulatory definition. I've asked him to update us at our next meeting and expand on some of the content he has sent to us via eMail. My view is that our thinking should also be informed by a broader context, so I have prepared some brief remarks about the use of the term "threat" in the contexts of due diligence and risk assessment.

Third, I think it's important for us to consider the concept of completeness and its relationship to producing a quality work product. It we try to compile a list of every potential source of water quality contamination over the entire aquifer, we're going to end up with a list that will contain tens of thousands of all sorts of things, have a lot of potential data gaps, and uncertainties. Is there some way to narrow down the universe of what we're looking at? Some possibilities might include:

- Only looking at particular places over the aquifer (e.g., recharge area)
- Only looking at sites with current contamination
- Only looking at certain types of potential sources

I'm looking forward to a broad ranging discussion on these issues, as well as any other items that relate to the definition of the work product. So I appreciate in advance your thoughtful consideration, and look forward to getting a sense of how the group thinks we need to proceed. Thanks!

Charles

Language from ASTM Standard E1527

3.2.55 *material threat*—a physically observable or *obvious* threat which is reasonably likely to lead to a *release* that, in the opinion of the *environmental professional*, is threatening and might result in impact to public health or the environment. An example might include an aboveground storage tank system that contains a *hazardous substance* and which shows evidence of damage. The damage would represent a *material threat* if it is deemed serious enough that it may cause or contribute to tank integrity failure with a *release* of contents to the *environment*.

Procedure for Quantitative Risk Assessment for Groundwater Pathway

1. Compile list of potential sources and inventories
2. Develop and apply release models to get flux of contaminants to vadose zone
3. Develop and apply vadose zone transport models to calculate flux to water table
4. Develop and apply groundwater transport models to calculate flux to receptor location
5. Convert concentration at receptor location to dose (need exposure scenario)
6. Convert dose at receptor location to risk (or hazard index)
7. Compare risk to appropriate and relevant standards