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September 6, 2016

Mrs. Becky Keogh, Director
Arkansas Department of
Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

Re: Investigation of Possible Release of Contaminants
At the C&H Hog Farm, Newton County, Arkansas

Dear Director Keogh:

I would first like to express my appreciation and that of my clients, the Buffalo River Watershed Alliance *et al* for the Department's decision to limit attendance on the site of the investigation into a possible release of contamination from the C&H Hog Farm to exclude representatives of BCRET. While my clients would have preferred to have had a representative present, if that representative were to be excluded it was a prudent decision to also exclude representatives of BCRET, whose handling of this matter has been questionable to say the least.

On July 12, 2016, I wrote to you on behalf of my clients, requesting, among other things, that the Agency seriously consider the drilling of more than one hole during the investigation at the C&H hog farm. We continue to believe that, due to the karst geology in that area and the difficulty in pinpointing the precise location of the possible release of hog wastes based on the ERT images, it is very likely that a single boring will not intersect contamination being released from the facility. As a result, it could be erroneously claimed that there is no release. That would be a tragic mistake.

Most of the cost of the drilling is in mobilizing the equipment to the site. The drilling of at least one, if not two, more holes while the equipment is there would not add greatly to the expense, but would give a greater level of confidence to whatever results are obtained. In all likelihood, there will be no additional drilling done unless the results of this investigation clearly show a release, and it would be best to resolve the question insofar as possible while this drilling event is taking place. We strongly urge the Department to reconsider its decision on the number of holes to be drilled.

Further, nothing has been said in the investigation work plans regarding the review of documents that the C&H facility is required to maintain of its operations. Specifically, the permit under which the facility has been operating requires that a depth marker must be maintained in the two open surface liquid impoundments (section 4.4.1.2), and that weekly records be maintained of the depth of the manure and process wastewater in those impoundments.

You may not be aware that, in 2014 a panel of experts in hog farm operations from the U.S. Department of Agriculture, Ball State University, and North Carolina State University were asked to review the BCRET monitoring program of the C&H Hog Farm. The Panel met from April 28 to May 1, 2014, and issued a report on May 19, 2014, to Dr. Mark Cochran, Vice President for Agriculture, University of Arkansas, that recognized three major potential threats to water quality associated with C&H Farms. These threats include: 1) leakage from the two onsite waste storage ponds, 2) contamination of surface and subsurface water due to land application of the wastes, and 3) potential long-term buildup of soil nutrient levels (primarily soil phosphorus) due to application in excess of crop needs and removal.

The portion of that report relevant to the monitoring of water management at the C&H Facility reads:

Potential leakage from the waste storage ponds. Currently a single surface water monitoring station is positioned down gradient from the ponds that is capable of sampling intermittent flow events. This should be kept in place. In addition, water usage is being measured in the confinement buildings. The Panel recommends that a short-term, detailed water balance study be conducted to determine the actual seepage rate of the storage ponds. This more robust approach would include a measure of all liquid inputs to the ponds, withdrawals from the ponds, the liquid levels of the ponds and evaporative losses. The results would allow for the calculation of actual seepage rate (within certain bounds) from the storage ponds for comparison to design specifications and standards. *In addition, a total water balance approach will identify other potential losses of liquid in excess of that which can be attributable to evaporation and planned withdrawals, either for land application or barn flushing. (Italics added)*

The Response of BCRET to this recommendation by the Expert Panel was as follows:

Potential Leakage from the Waste Storage Ponds: We agree that the potential for leakage of manure from the storage ponds needs to be closely monitored. To address this, we will install a trench downslope of the storage ponds that will

intercept any subsurface flow of leakage moving along a restricting or less permeable layer. ...

Pond Water Balance: The panel recommended conducting a short-term detailed water balance of the storage ponds. Given precision limits for the various direct and indirect measurements needed to estimate the seepage losses and the fact that the ADEQ's design criteria is 5000 gal/ac/day which is the same as 0.0013 in/day, we are concerned that a detailed water balance determination is not appropriate at this time. Rather the trench collection system will be used to test soil water for indications that it is seeping from the ponds. If these results indicate the need they and a rough water balance based on precipitation and pumping records will be used to reassess the feasibility of a detailed measured water balance for the storage ponds.

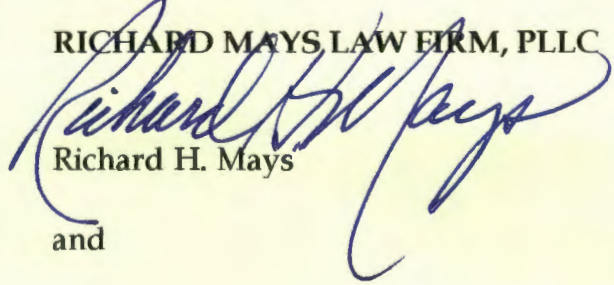
So, instead of a wastewater "mass balance" as recommended by the Expert Panel, BCRET elected to dig a ditch down-slope of the waste management ponds in hopes that any leakage from the ponds would flow in the direction of the ditch and be detected. This is based on the assumption, contained in the BCRET Response, that there is "a natural cherty layer about 48 inches deep" beneath the facility upon which any leakage would flow into the ditch. Given the karst geology underlying the area, that may well not be a valid assumption. It is very likely that leakage from the facility is flowing directly beneath the facility or in a different direction than the ditch.

A review of the C&H wastewater management records may provide information indicating that there is leakage from one or both of the impoundments. It is possible that C&H management determined from a review of these records that there may be a release occurring, leading them to file their request for authority to install the artificial liners in the impoundments. It may also explain the resistance of C&H to the proposed investigation.

Again, we strongly recommend that the Department review all records of the C&H facility relating to the waste management ponds, preferably before the commencement of drilling, and that not less than three (3) borings be completed at that time.

Sincerely,

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cc: Gov. Asa Hutchinson