

# John Van Brahana

Dear ADEQ;

I firmly support the Arkansas Department of Environmental Quality's decision to deny C&H Hog Farms request for a Regulation 5 permit. I base my decision on the strong technical data reported in the depositions by Dr. Robert E. Blanz (ADEQ), Mr. Thomas Aley (, Mr. David Mott (National Park Service, retired; USGS, retired), and in the documents that I have previously provided to you on which I was an author. These dealt with groundwater studies we conducted, and include the following peer-reviewed studies:

Brahana, Van, Bitting, Carol, Kosic-Ficco, Katarina, Turk, Teresa, Murdoch, John, Thompson, Brian, and Quick, Ray, 2017, Using fluorescent dyes to identify meaningful water-quality sampling locations and enhance understanding of groundwater flow near a hog CAFO on mantled karst—Buffalo National River, southern Ozarks: in Kuniandy, E.L., and Spangler, L.E., eds., U.S. Geological Survey Karst Interest Group Proceedings, San Antonio, Texas, May 19-23, 2017, U.S. Geological Survey Scientific Investigations Report 2017-5023, p. 147-160.

Brahana, V., Nix, J., Kuyper C., Turk, T., Usrey, F., Hodges, S., Bitting, C., Ficco, K., Pollock, E., Quick, R., Thompson, B., and Murdoch, J., 2016, Geochemical processes and controls affecting water quality of the karst area of Big Creek near Mt. Judea, Arkansas: *Journal of the Arkansas Academy of Science*, v. 70, p. 45-58.

Murdoch, John, Bitting, Carol, Brahana, John Van, 2016, Characterization of the karst hydrogeology of the Boone Formation in Big Creek Valley near Mt. Judea, Arkansas—Documenting the close relation of groundwater and surface water: *Environmental Earth Sciences*, v. 75;1160, 16 p. (DOI 10.1007/s12665-016-5981-y)

Data in these depositions and these reports strongly support the hydrogeologic interpretation that groundwater in the vicinity of C&H and their spreading fields is being contaminated by the feces and urine from the C&H hog waste, and is moving through underground karst voids and conduits to tributaries to the Buffalo National River, and degrading the quality of that river. Please deny the Regulation 5 permit. Thank you.

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