Date: 10/6/18

Director Keogh, Caleb Osborne and Sarah Clem,

Please accept my comment on the draft Regulation 5 swine waste permit 5264-W, AFIN 51-00164 for the C&H Hog CAFO. I support the ADEQ decision to deny the permit based upon the points established in ADEQ's Statement of Basis for denial which I have included in my comments below.

- 1. There is now clear scientific evidence of a negative environmental impact to these streams attributable to nutrient overloading within the last few years. ADEQ has established its proposed 2018 impaired waterbodies list, and has placed four impaired Assessment Units (two sections of Big Creek (Newton County) and two sections of the Buffalo National River) as impaired waterbodies
- 2. C&H Hog farm has not complied with requirements, especially those that pertain to karst locations, and this has increased the impairment of the Buffalo National River and its tributary, Big Creek, along which C&H is located, APC&EC Regulation 5 entitled "Liquid Animal Waste Management Systems" specifically, APC&EC Regulation 5.402, Design Requirements states: (A) Design and waste management plans shall be in accordance with this Chapter and the following United States Department of Agriculture Natural Resources Conservation technical publications: (1) Field Office Technical Guide, as amended.(2) Agricultural Waste Management Field Handbook, as amended.
- 3. The presence of karst triggers additional considerations for siting and design as stated in the Animal Waste Management Field Handbook (AWMFH). It is inappropriate to site a CAFO like C&H in karst, and especially with the hydrogeology that occurs connecting it to the Buffalo National River as evidenced in Professor Van Brahana's dye trace studies. ADEQ has identified karst at the site, and BCRET reported that the core sample from the Harbor Drilling Study had a calcium content of 382,176mg per kg of soil at a depth of 25 feet. Epikarst serves as a conduit for liquids to travel through karst terrain. The Big Creek Research Extension Team (BCRET) has documented an increase in nitrate-N near the facility. A groundwater flow direction study has not been performed. Increased nitrate-N in both the ephemeral stream and the house well suggests that these systems may be hydrologically connected to areas where farm activities take place.
- 4. Pond Construction Quality Assurance is a real issue since the C&H record included only one recompacted permeability test. That single test is insufficient to determine liner integrity. The necessary soil investigations including, but not limited to, percentage of fines and soil permeability evaluations, have not been performed at this facility in accordance with the AWMFH.
- 5. C&H has not performed acceptable field Assessments of High-Risk Areas of Land Application Sites including all of the characteristics listed in AWMFH.
- 6. An adequate Operations and Maintenance Plan for the pond levee, including an inspection schedule and plan document, or an emergency plan were not included in the record.

I support the ADEQ denial of the C&H Hog farm permit. The proposed listing of Big Creek and the Buffalo National River as impaired waterbodies, the statistically significant increase of nitrate-N in the ephemeral stream and house well, and the increase of STP in all land application fields receiving waste further illustrate the need for the C&H Hog CAFO to be denied a permit to operate in the Buffalo National River watershed.

I agree with Governor Hutchinson that we must rely on the science as he stated: "My love for our state and my passion to protect our water compels me to ensure that the studies are scientific and impartial. The studies on which ADEQ bases its decisions are and will continue to be scientifically and environmentally sound."

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