

Katherine McWilliams ADEQ
Office of Water Quality
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Re: C & H Hog Farm permit number 5264-W , AFIN 51-00164

I Vote NO to any re-permitting of C & H hog Farm

Dear Ms. McWilliams, My name is Ms. Dorothy S. Walters and I am a Hydrogeologist/Toxicologist/
/Farmer/Contractor/ Mechanic/Teacher/Jack of all trades.

I was at your Public comment meeting on 3/7, in Jasper Arkansas, and several comments that were made I found very problematic. Until these issues are closely looked at and a clear, concise program is devised to professionally monitor & measure these problems I vote "NO", to any permits allowing C & H Hog factory farm to continue their degradation of this fragile environment, which we share with at least 1.7 million visitors per year, to our beautiful state. Many of these people are our family & friends who bring much needed tourist dollars to our state & leave with life long memories of this unique, beautiful, pristine Buffalo River. This area is primary limestone, a coarse, crystalline rock which is dissolved by chemical weathering. It has little primary porosity but it has secondary porosity & excellent permeability due to joints, fractures, bedding planes, faults, & karst features. This was proven by field observations by professional Geologist who also measured subsurface groundwater flow rates of up to 21,000 + feet per day with dye tracing techniques. These rates are conservative as heavy rainfall events would accelerate surface flow, and researchers collected dye trace traps 24 hours or so after injection of dyes. These dyes could have traveled much faster than that 24 hour collection window. This area also has a high percentage of chemically stable chert, within the limestone, and sandstone/siltstone in the higher elevations. The weathering by products of sand, silt, & clay migrate down slope toward depressions with surface water run-off thus filling in surface karst features making them hard to see with the untrained eye. This Area is Karst and must be treated as such.

I also noticed that no monitoring of groundwater was being done? Why? At the flow rates measured & knowing that virtually no filtration of contaminants can occur at these flow rates, why is this not being done? There are people all around this area that rely on groundwater as their only source of potable water. How will they know if their well is contaminated? Will they have to become ill & find out from their Dr. that their water has sickened them? I doubt they can afford to get city water? Who will pay this? Who will be liable if a catastrophic illness occurs? Right now E coli, Phosphorus, and Nitrogen seem to be the only contaminants that have been measured, and the values for E coli have been through the roof. High phosphorus & Nitrogen have been measured too. Now Ms. McWilliams, if I were to bring you 50 gallons of some of this well water, would you feel safe using it as your only source of drinking water for the next month?? No cheating & pre-treating it or boiling it first. When 5000 gallons of pig effluent, (liquid feces & urine), per day are allowed to seep, or disappear from these containment ponds with NO oversight, what so ever, as to where it goes, than this community and its nearly 2 million visitors have a potentially very big problem. When have the financial benefits of 2 families and a few farm workers ever outweigh the benefits of nearly 2 million visitors and community members who depend on these visits for their livelihood?

I also find it very problematic That you think C & H hog Factory farm should be allowed to monitor their own site. It's not Kosher, It's like giving the keys to the liquor cabinet to a bunch of teenagers, What could go wrong???? It is to their financial interest to modify, skew, tamper, or just plain cook the books and cut corners anyway they can to avoid responsibility for damaging other peoples properties, waters or health. It's all about the almighty dollar. They get to make money while the community around them suffers the ill effects that come with factory farms. Your agency is supposed to protect the public health of the resources we all depend on. Hell, you don't let the fox watch the hen house. The C & H Hog Factory Farm well is 325 ft. too 350 ft. deep. It is fully cased to make sure the well doesn't cave in on itself & to * ensure surface waters don't contaminate deep well waters*. This well also is protected by aquicludes which are represented by the St. Peters Sandstone & Everton Formation. Both units are sandy and work as filters for any surface waters moving downward in the stratigraphic column. I only describe them as aquicludes in respect to the extreme high velocity flow rates that are observed in the Boone Limestone & other limestone formations describes in this area. Any waters tested from this well are nothing more than *False Negatives*, and do not in any way represent contaminated flow occurring in the upper surface water & shallow water table of the karst units.

I also noticed that NO mention of air quality or biologic pathogens, other than E coli, were mentioned. Let's talk about viruses which can be transported by air or water. In the Pandemic of 1918 influenza "A" virus, capable of infection between human, avian, & swine species, infected an estimated 500 million people world wide. 50 to 100 million died, 50% to 80% of deaths in WWI were due to this disease, which basically ended the war. Investigations into the genetic map of this strain of influenza showed a strong possible link to a wild avian influenza strains collected at this time. The wild birds could have infected domestic fowl or humans, but this has not been confirmed. This Pandemic was unique in its virulence & how quickly it spread. It spread worldwide within a few short months. Normally it takes over a year for these pandemics to spread. It also targeted not only the very young & old, as most influenza does, but it also targeted 15 to 35 year olds to. I believe it spread so quickly because migrating birds worked as vectors helping to spread it in both the Americas & Europe & Africa, thoe I have no proof. The 1918 Pandemic also shows close ties with porcine,(pigs) strains of Influenza, which today are still present as less virulent swine flu strains that cause annual epidemics. In 1977 this strain reemerged in human populations after being thought to have "Disappeared". The 1957 Asian Flu & 1968 pandemic flu came from Eurasian wild water fowl strains. The Conclusion of Virologist is that the original 1918 pandemic strains are still present in less virulent modified forms in humans, avians & swine populations and that if conditions are right, a pandemic of equal virulence & high mortality can occur again. * Those conditions are: 1). Optimal Humidity, 2.) Increased overcrowding indoors, 3.) Imperfect ventilation due to closed windows (Trying to retain heat) and suboptimal air flow. All three conditions are present , in the extreme, in factory farms. Now with the advent of factory farms the World Health Organization, WHO and the Centers For Disease Control CDC have turned much of their attention to monitoring these factory farms as their first line of defense against influenza out breaks that can possible become pandemics. What has been confirmed is that these influenza A viruses and other viruses have jumped between species and caused epidemics. In Malaysia, 1999, Nipah Virus infected pigs in a factory farm and crossed over to infect humans with encephalitis type symptoms. Several 100 people died, the military was brought in and 1 million hogs were culled, shot and put in massive graves. Economically this was devastating and the government had to take control of the situation as the factory farm did not have the means to deal with it. Another words the Government paid the price & many paid with their life. Virologist found that this virus was present in small farm operations but when these pigs were housed in highly concentrated factory farms, conditions were right for the mutation to occur & this virus successfully jumped to humans.

As factory farms become the new normal way of producing food, new problems have arise which are very problematic and of grave concern to public health professionals. Weak Veterinary & Public Health Infrastructure can lead to epidemics or possible pandemics. Biosecurity & Biocontainment are the new methods by which we try to contain biologic pathogens from being spread to the general population. Biosecurity is always strongly enforced, but Biocontainment is often lax, which is the means by which pathogens in factory farms can escape to the general public. Vectors of transmission can be varied. They can bring pathogens into a biosecure factory farm. Or they can bring them out. Most viruses enter the body by the fecal oral route. They are excreted in the feces or from mucus membranes, and saliva, then enter the mouth or lungs where infection will occur again.

Animal waste put on fields attracts flies, bugs, birds, feral hogs, dogs & mice. These can take up the virus, and transport for considerable distance and cause infection elsewhere. A heavy rainfall event can carry pathogens to surface water or ground water sites. These virus pathogens can remain capable of infection for many months & years in cool moist water systems. Viruses are either positively or negatively charged. Many clay particles have a positive & negative charged surface that viruses attach to. Special care must be taken to collect viruses in water samples as they tend to stick to clay particles and viral titers can be less than what is actually in the sample. I worked with a Virologist who was able to cause infection with a poultry virus, Infectious Bursal Disease Viruses, (IBDV), isolated from a poultry house soils that were sterilized 2 years before and had not housed any chickens during that 2 year period. This site was exposed to sun, & seasonal temperature changes which would deactivate a bacteria but not this virus. Viruses in the cool, moist, dark environment of karst features, can remain capable of infection for much greater lengths of time. The CDC, and WHO are constantly monitoring these factory farms, world wide, for avian influenza & swine influenza out breaks as this is the next most likely potential site of a pandemic strain mutating or developing. Other vectors include the farm workers themselves. Do they wear protective clothing? do they take their laundry home to wash, possible infecting their family? What decontamination procedures do they follow? Do they stay away from work when they are sick, as to avoid bringing pathogens into the pigs? Is the Local Public Health Department doing any form of monitoring of school children or farm workers & their families?

Airborne Pathogens, I see that no agency is monitoring air quality. Have we so soon forgotten the Ebola Virus? Let me make this simple. If you smell poop or pee you are actually inhaling colloidal bits of poop & pee. That's just a fancy way of saying lil tiny pieces of poop & pee. Viruses & bacteria are excreted in feces & urine and ride piggy back on those lil colloidal bits of poop you are inhaling. You have just potentially infected yourself with a number of pathogens. These pathogens can also occur in aerosolized water droplets in showers taken with contaminated water. Incidental water ingestion while swimming at your favorite contaminated creek, pond, or spring can cause disease. Other diseases found to be linked with these factory farms are: Anthrax, Colibacillosis, coliform mastitis-metris, leptospirosis, listeriosis, salmonellosis, tetanus, histoplasmosis, ringworm, giardiasis, cryptosporidiosis, and a multitude of viruses. All these contaminates can ride piggy back on animal dander, dust, water droplets, through ventilation fans, where these contaminated can be carried down wind or deposited close by on windless days. Yet I don't understand why with years of good sound research by the CDC & WHO that these potential problems are being completely ignored. 1.7 to 2.0 million people are being put at risk yearly, so C & H hog factory farm can operate essentially with NO credible, competent monitoring being done???? Just how are you going to restore good clean ground water if they do have a major spill??? They already have seepage which shows high levels of chemical & biologic contamination. I noticed that the ventilation fans can blow contaminates to the nearby school. Would you want your children to go to that school with that poor air quality? How about all the potentially contaminated dust size particles, from C & H Factory Hog Farm, on the play ground ?? The fields they spread the hog waste effluent on

border 2 sides of the school, and you can literally wack the guy runny the spreader with a rock, if you got a good throwing arm.

Well vectors work both ways. If you got a house full of breeding hogs, feral pigs are gonna show up and want to meet miss piggy. Flies, mosquitoes, mice, rats, dogs cats, small birds and farm workers who happen to walk where the feral hogs have been, can now be vectors to bring disease into the C & H factory farm. Feral hogs will eat anything. I raise pigs and they like really nasty dead stuff to eat. They are omnivores with a strong leaning toward carrion; they will ignore good wholesome food and go for a stinky carcass every time. Feral hogs are reservoirs for all kinds of nasty diseases. There is a wasting disease among the deer &, I believe, in the Elk populations which could be brought in and cause problems. I read in the C & H procedures that they reuse/recycle water to wash down the premises & hogs. How has this water been treated?? If it still contains pathogens, then they are simple re-inoculating the pigs with pathogens. Essentially they are breeding bigger, meaner, more virulent forms of pathogens that will become immune to antibiotics & antiviral drugs.

In a small community everyone needs to work together to help keep everybody, our family, our children, our friends safe from tragedy. We want our children safe in school, and on the play ground. We want our grocery store to provide safe food. We want our Dr. to provide safe medicine & competent care. We want our police to keep us safe from the foolish & mean things that people do. Everybody has their job to do to ensure a safe, vibrant community Good Ethics & Empathy are the corner stone to a strong successful community. The C & H Hog Factory Farm, has willfully threaten the health of our children, seniors, and all community members by their practices. With freedom comes the responsibility of doing the right thing. Spreading hog manure next to the school should be against the law, and if I had school age children I would take them out as I would see this for what it is, Bioterrorism. Our neighbors deserve to live with clean air & safe water. This is the bare minimum to which all humans deserve to live. Their health should not be forced to endure this situation. As the area & waters degrades, so will their quality of life and so will the value of their real-estate. Will they be forced to sell out in a depressed real-estate market, because their quality of life is so damaged that they chose to flee? And who has the money to buy these vacated farms that nobody wants??? I bet C & H Factory Hog Farms will buy them up. I already heard about one place that got burnt out. Is it Rumor??? Once the watershed becomes so degraded, than the tourist will go too and their monies. It's a shame that the first National Waterway in the country, the Buffalo River, the Diamond in the Crown of the Natural State, Arkansas, will meet it demise at the hands of ADEQ, and its lack of Stewardship. Do What's Right, Do You're Job. Follow the advice of the Professional Geologist, who work very hard & diligently to do Good Science. To provide the Citizens of Arkansas with the Pure Facts, unadulterated by Lobbyist & Special Interest Groups whims, or the Profiteers who seek only to profit from ADEQ's lack of stewardship.

I will end with a couple of short stories. I knew a pre-med student who drove 40 miles to class, 3 times a week. Her husband was a very kind, concerned, helpful man. As she would get in the car for her drive, he would always ask her, in a sympathetic, concerned voice, if she had her coat hanger? She would check & say yes or go get one to put in the car before her drive. I watched this go on for a couple of years. I took her aside one day before her drive and asked her what the coat hanger was for? At which she replied: it was to be used to get in the car if ever she got locked out. I suspected this, as I knew her husband was a real joker. I asked her how could the coat hanger help her to get into a locked car if it was already locked inside??? Well I saw the little light bulb turn on in her eyes as she followed the logic & realized I was right & her husband was just pulling her leg. The Moral of this Story?? An Educated Idiot can be easily swayed by a comforting voice. Another words Question & Evaluate Facts before you make

decisions. It won't come back to haunt you when you make foolish, Stupid decisions that harm people in the long run.

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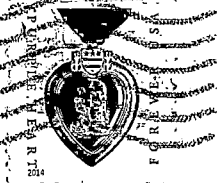
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