



IN REPLY REFER TO:

**United States Department of the Interior**  
**NATIONAL PARK SERVICE**

Buffalo National River  
402 N. Walnut, Suite 136  
Harrison, AR 72601

1.A.2 (BUFF)

August 9, 2016

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

Dear Director Keogh:

On behalf of Buffalo National River, I submit the following additional comments regarding the proposed drilling at C&H Hog Farm, Inc.:

1. The Harbor Environmental and Safety document does not qualify as a “Site Investigation Work Plan” as titled. This plan describes a borehole investigation to inform Electrical Resistivity survey results along one of four transects near the C&H Hog Farm waste storage ponds. The surface of the Boone formation is highly irregular and can vary greatly over short horizontal distances. The development of solutionally-enlarged fractures and conduits within the Boone formation is also highly irregular and complex. Dissolution of the Boone provides ground water flow pathways that may carry contaminants directly down to the water table. A single borehole will fail to provide enough information to elucidate the karst nature below the waste storage ponds, or satisfactorily answer questions about geohydrologic conditions at the site, specifically ground water contamination.
2. Drilling a single hole could be inefficient as a significant cost associated with drilling is the mobilization cost of getting the drill rig and related equipment and personnel on and off site. A plan which proposes to drill multiple holes while the equipment is onsite and available could be developed and could more reasonably be considered a site assessment.
3. The depth of drilling is too shallow. The plan does not appear designed to drill to the water table, based upon the water well logs for the barn well.
4. Additional boreholes should be drilled to target other sites of both low and high resistivity to help better the interpretation of the transects, understand the hydrogeology, and provide insight to the structure of the karst underneath the ponds. We suggest ADEQ drill on all four transects targeting areas such as the following:
  - a. Transect MTJ107 has at least two sites where additional boreholes would be useful in the area 40m to 70m from the southwest end of the transect. This is an area which appears to have a sinkhole or a bedrock cutter.

- b. Transect MTJ108 at least two additional boreholes in addition to the 75m from the southwest end borehole. The second borehole should be at approximately 30m from the southwest end where water or some other conductive material appears to be perched. The third borehole should be approximately 60m from the southwest end where it appears to be a bedrock pinnacle may exist.
  - c. Transect MTJ109 appears to have two good borehole locations. Location 1 is approximately 25m from the southwest end and shows as a low resistivity area. Location 2 is approximately 60m from the southwest end and would help elucidate the karst nature better.
  - d. Transect MTJ110 needs a borehole approximately 75m from the NW end where there is a high resistivity area. It would be useful to see if this is a limestone pinnacle.
5. A single borehole will not allow ADEQ to determine flow direction of water or waste under the ponds. Multiple monitoring wells or piezometers may allow for such determinations. This will prove very important if the low resistivity zones are shown to be hog waste from the ponds.

I know ADEQ joins Buffalo National River in wanting to ensure that this operation is not degrading the water quality of the Buffalo River as required by the Antidegradation Policy in the Clean Water Act and Arkansas Pollution Control and Ecology Commission Regulations.

Sincerely,



Kevin G. Cheri  
Superintendent  
Buffalo National River