

Comments Summary
Draft C&H Hog Farms Drilling Study Work Plan
August 26, 2016

ADEQ received a number of comments on the Draft C&H Hog Farms Drilling Study Work Plan (Plan) prepared by Harbor Environmental. Below is a summary of the relevant comments received along with the Department's response. All comments are available on the project webpage at <https://www.adeg.state.ar.us/water/bbri/c-and-h/>. A number of other comments addressed actions and inactions by ADEQ, the presence of the hog farm in karst geology, or the Buffalo River. The Department acknowledges these comments but has determined they are beyond the scope of the Plan. In addition, a number of comments were received after the deadline established by the Department. They were also reviewed and responses below address all comments received to date.

The majority of comments on the proposed drilling project at C&H Hog Farms were about the scope of the project, the depth of the boring, the number of borings, possible on-site reps from stakeholders, the content of the Site Investigation Report, ADEQ actions should evidence of leakage be found, groundwater sampling, and injecting dye in the borehole.

Project Scope

A number of questions were raised regarding the scope of this project. ADEQ undertook this investigation as part of its regulatory authority in response to citizen concerns regarding the findings of the Electrical Resistivity Imaging (ERI) study conducted by Dr. Todd Halihan under a contract with the University of Arkansas Big Creek Research and Extension Team (BCRET). These concerns were based on a statement made by a member of the BCRET team in an email recounting a discussion with Dr. Halihan and others. The email stated: "*In Short, it would be nice to put a well on the west side in the vicinity of where Todd (Dr. Halihan) believed he saw a major fracture and movement of waste. This could be critical to resolving the interpretation of the resistivity data . . .*" The purpose of the drilling is to follow up on that summation (i.e. to investigate the anomaly as a possible fracture and movement of waste). The scope of this study is intended to resolve questions regarding subsurface conditions at the point of interest identified by the ERI study.

Borings

ADEQ has requested the consultant modify the draft Plan to extend the boring to approximately 36.5 meters (120 feet) in order to ensure a thorough investigation. In previous public discussions, ADEQ indicated that the boring would go to refusal using a split spoon and hollow-stem auger. Subsequently, the decision was made that sonic drilling would be used because it will penetrate competent rock and allow for a more complete subsurface core. In addition, with sonic drilling, the hole can be advanced to the area of interest—the anomaly seen in the ERI study.

ADEQ acknowledges the comments requesting that additional borings be made while on-site. However, the Department has determined only one borehole will be drilled because this follows the recommendations the Agency received to characterize the anomaly at the site as discussed above.

Samples

The samples will be split with Arkansas Analytical (the commercial lab retained by Harbor Environmental), ADEQ, the University of Arkansas Division of Agriculture's Soils Testing and Research Lab, and the Ouachita Baptist University lab under the direction of Dr. Joe Nix. The Investigation Report will be based on the full suite of samples analyzed by the commercial lab specified in the accepted work plan. ADEQ, Dr. Nix, and U of A will receive splits of samples for partial analysis. Several commenters suggested additional parameters to be analyzed. ADEQ believes the parameters identified in the Plan are adequate to compare with the lagoon samples taken on July 27, 2016, and does not plan to alter the analytes identified in the Plan. ADEQ personnel and technicians from the U of A soils lab will be on-site to receive samples and transport the samples to their labs.

Observers

ADEQ has considered all observer requests. ADEQ has hired Harbor as an independent consultant to conduct the work. At the request of the Buffalo River Coalition (BRC), ADEQ required Harbor to retain an independent geologist to serve as an observer for the project. BCRET study will be suspended during the onsite portion of the drilling study.

Field Work Records

In regard to questions about notes and recordings during field work, one of the Harbor Professional Geologists on-site will record key elements of the drilling and sampling process, which will be made available on ADEQ's website. In addition, all of the information acquired by the independent geologist will be documented in the geologist's separate independent report, which will also be made available on ADEQ's website.

Findings

Many commenters also asked what ADEQ will do if evidence of lagoon leakage is detected. If evidence of movement of waste is confirmed, ADEQ geologists and engineers will discuss risk mitigation and potential corrective measures including, but not limited to, alternatives such as installing a synthetic liner in the lagoons.

Groundwater Sampling

Should groundwater be encountered during drilling, a temporary casing will be placed in the borehole for the sole purpose of extracting a groundwater sample. This technique will be repeated should groundwater be encountered at different horizons and, if water is present, at the bottom of the boring. At the termination of the boring, following all of the sampling, the hole will be cemented to the surface and the casing removed in accordance with the Arkansas Water Well Construction Commission Rules and Regulations and ADEQ Policy 96-4 (HWD-2). (No permanent monitoring wells will be installed so the Environmental Protection Agency Resource Conservation and Recovery Act Groundwater Monitoring Technical Enforcement Guideline Document is not applicable.)

Dye Injection

A number of comments suggested that dye be injected into the bore hole prior to plugging and abandonment. The Department has determined such an injection, with subsequent monitoring requirements and analysis is not essential to characterizing the anomaly observed.

Other Comments

The location of the borehole taken during design of the facility is available on the ADEQ website under the C&H Hog Farms AFIN-51-00164. For additional information, the boring logs of the water wells drilled on-site to support the operation are available through the Arkansas Water Well Construction Commission.

The subsurface cores will be removed from the site, placed in standard core containers, and stored at the Arkansas Geological Survey warehouse at 3815 West Roosevelt in Little Rock.

No ADEQ staff have sent any information to, or otherwise had any contact with, the independent professional geologist retained by Harbor, Mr. Tai Hubbard.