

PIT WATER SAMPLING

A DNR Oil and Gas Workgroup Initiative

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Kentucky Oil & Gas Association
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Background

- The Oil and Gas Workgroup was formed in the spring of 2014 by Secretary Len Peters
- The first meeting of the workgroup was held on May 29, 2014
- The workgroup has been re-appointed by Secretaries Charles Snavelly and Rebecca Goodman.

Background (Cont.)

- The workgroup has been successful at identifying topics and reaching consensus as to statutory and regulatory changes to address them.
- The efforts of the workgroup have resulted in a number of Bills having been passed by the Legislature to modernize the oil and gas regulatory scheme in Kentucky

Background (Cont.)

- Topics successfully addressed by the Workgroup include:
 - FracFocus
 - Reclamation Plans
 - TENORM
 - Hearing Process Reform
 - Stratigraphic Test Wells
 - Forced Pooling
 - Bonding
 - Abandoned Storage and *Orphan Well* Reclamation Fund
 - Amendment of Bonding and Well Transfers
 - “Bad Boy” Standards
 - Ground Water Protection Plan Template
 - Orphan Well Definition and Plugging Guidelines
- The consensus process has been praised by Leadership of the Legislature and has resulted in all Workgroup sponsored legislation successfully passing...with only one negative vote having been cast.

Background (Cont.)

- Current members of the workgroup:
 - Seven members of KOGA (Supported by other KOGA members the Board of Directors)
 - Representatives of the Energy and Environment Cabinet (Secretary's Office, Department of Environmental Protection, Division of Oil and Gas, Division of Water, Division of Air Quality, Office of Energy Policy, Office of General Counsel)
 - Representatives of the Environmental Community
 - Kentucky Geological Survey
 - Kentucky Chamber of Commerce

Pit Water Sampling

- During 2019, KOGA representatives to the oil and gas workgroup asked that the topic of land application of drilling fluids be considered.
- During several meetings of the workgroup, the topic was discussed and considered.
- A draft regulation was developed and later shelved in order to give the workgroup and the Cabinet time to understand the nature of drilling fluids.
- In 2020, a number of samples were taken from drilling pits around Kentucky with widely varying results as to make up of the fluids.

Pit Water Sampling (cont.)

- Due to the variances in the sampled pit fluid, a subcommittee of the workgroup was established to consider what may have caused the variances and how to accurately test the fluids.
- The subcommittee reported to the workgroup that the various geological regions of Kentucky utilize different drilling techniques and that each area should be tested differently.
- The Cabinet and workgroup then began developing a protocol for collection and testing of drilling fluid.

Pit Water Sampling (cont.)

- During this period, COVID was a disruptive factor, as well as several other matters that required the immediate attention of both the Cabinet, DOG and the workgroup...the Orphan Well Plugging Program.
- Kentucky's plugging program was one of the most successful in the nation and after dealing with those issues, in late 2023, the Department for Environmental Protection and the Division of Oil and Gas were able to issue draft guidance of sampling of pit water incorporating the recommendations of the workgroup.

Pit Water Sampling (cont.)

- The final document is designed to provide guidance to contractors collecting samples for evaluation of the fluids.
- The samples will then be analyzed as to the types of constituents that are present in the drilling fluids so that an ultimate decision can be made as to whether land application is a viable option for disposal.
- It is anticipated that analytical results will be evaluated based upon drilling methods and geological regions.

Pit Water Sampling (cont.)

- The regions and drilling methods are as follows:
 - Western Kentucky Illinois Basin – water/mud drilling
 - Eastern Kentucky Horizontal Berea – fluid drilling
 - Eastern Kentucky Appalachian Basin – air drilling
 - South Central Kentucky – air drilling

Pit Water Sampling (cont.)

- Samples collected from each pit sampled shall be analyzed for each of the following:
 - Metals
 - Volatiles
 - Semi-volatiles
 - Chlorides and bromides
 - Salinity
 - Total and soluble iron
 - Turbidity
 - pH and
 - Temperature

Pit Water Sampling (cont.)

- The samples must be collected by a certified contractor trained in proper methods.
- The samples must be processed and analyzed by a certified lab.
- Contractors and labs may use their own standard operating procedures and quality control procedures for sampling and analysis.

Pit Water Sampling (cont.)

- The goals are:
 1. To get enough samples from each region to have a representative set of data to enable the Cabinet and workgroup to determine if land application of drilling fluids in the various regions is feasible.
 2. To obtain the samples on a voluntary basis from operators in the regions.

Pit Water Sampling (cont.)

- The procedures:
 1. Before you begin drilling, chose a certified lab and let them know you want to have pit fluid tested pursuant to this program.
 2. The lab must notify the Frankfort DOG office 48 hours prior to taking the sample to allow DOG staff to be present.
 3. After the sample is collected and analyzed, the results will be delivered to the well operator and the Cabinet.
 4. The Cabinet will review and aggregate the data by region to enable the Cabinet and the workgroup to determine if land application of drilling fluids in the various regions is feasible.
 5. If feasible, the workgroup will assist with the development of the necessary regulatory scheme to implement land application.

Thank you!

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and DNR Workgroup Member

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