



## Fact Sheet: Drill Cuttings from Oil and Gas Exploration in the Marcellus and Utica Shale Regions of Ohio

(Revised October 2013)

### What are drilling muds and cuttings?

Drilling a natural gas or oil well involves the use of fluid (called **drilling mud**) or compressed air (air drilling) to aid in the process of drilling a borehole into the earth. Drilling mud is necessary in drilling because it cools and lubricates the drill bit, helps stabilize the well bore during drilling and keeps fluids in the formation from entering the borehole.

The type of fluid used as drilling mud depends on factors such as the well type and rock formation that will be drilled. The drilling of a borehole through underground sources of drinking water must be done using air or fresh water. Subsequent phases of drilling may use brine, refined oil-based muds, or bentonite muds, which help keep the drill bit lubricated and the borehole pressure stable during drilling.

Drilling mud also is used to carry rock and soil (called **drill cuttings**) excavated by the drill bit up to the surface. Drill cuttings, as defined in Section 3748.01 of the Ohio Revised Code (ORC), means the soil, rock fragments, and pulverized material that are removed from a borehole and that may include a de minimus amount of fluid that results from a drilling process. At the surface, the drilling mud is separated from the drill cuttings. Drilling mud is valuable to the drill operator and is recovered so that it can be used again.

### How are drill cuttings regulated in Ohio?

Drill cuttings managed on the drill site are regulated by the Ohio Department of Natural Resources (ODNR).

Cuttings generated during the phase of drilling that involves air, water, clay or other inert materials are considered earthen material and are not regulated as a solid waste. Drill cuttings coming into contact with refined oil-based substances or other sources of contaminants that are sent off-site for disposal are classified as a solid waste under Ohio Environmental Protection Agency (Ohio EPA) regulations. Drill cuttings that have come into contact with refined oil-based substances may be disposed of at a licensed solid waste landfill.

Anyone wanting to use drill cuttings off-site for fill or other beneficial uses, must first obtain approval for these uses from Ohio EPA's Division of Materials and Waste Management. Drill cuttings may be recycled or reused at the well pad, or associated oil and gas facilities, if approved by ODNR.

### **Are drill cuttings contaminated with chemicals from hydraulic fracturing?**

No. The hydraulic fracturing process occurs after the wellbore has been drilled and cuttings are removed. Therefore, drill cuttings do not come in contact with any chemicals used in the hydraulic fracturing process.

### **Are drill cuttings considered hazardous waste?**

No. Drill cuttings are not subject to state and federal hazardous waste regulations. However, drill cuttings that have come in contact with refined oil-based substances are subject to Ohio's solid waste regulations.

### **Can drill cuttings contain naturally occurring radioactive materials?**

Yes. Most geologic formations contain low levels of naturally occurring radioactive materials (NORM). Granite, marble and limestone are examples of commonly used building materials that contain low levels of NORM. Much like boring a tunnel through a granite mountain, drilling into the Marcellus or Utica shale can create cuttings that can contain low levels of NORM.

Cuttings are not regulated by the Ohio Department of Health (ODH) as radioactive material unless the NORM content is elevated to a level greater than is found in its natural state.

### **Should I be worried about the management of drill cuttings in Ohio?**

No. Under recent changes to House Bill 59, the agencies continue to work to ensure the safe and effective management of drill cuttings in Ohio.

### **Where can I get more information?**

For more information on shale oil and gas drilling in Ohio, visit ODNR's website at [oilandgas.ohiodnr.gov](http://oilandgas.ohiodnr.gov) and Ohio EPA's website at [epa.ohio.gov/MarcellusandUticaShale.aspx](http://epa.ohio.gov/MarcellusandUticaShale.aspx).