



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

February 2012

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. Three primary types of drilling muds are water-based, oil-based and synthetic-based. It is not as common today to use oil-based muds that contain petroleum products such as diesel fuel. Synthetic-based muds are more frequently used because they perform well, have less environmental impact and biodegrade faster.

Drilling mud also is used to carry rock and soil (called **drill cuttings**) excavated by the drill bit up to the surface. 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).

Drill cuttings coming into contact with drilling muds, oils 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. Cuttings sent off-site for disposal in Ohio must be sent to 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.

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 a hazardous waste?

No. State and federal regulations do not classify drill cuttings as a hazardous waste. Drill cuttings disposed off-site, however, are subject to Ohio's solid waste regulations and must be disposed in licensed solid waste landfills.

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 as radioactive material unless the NORM content is elevated to a level greater than is found in its natural state.

Are drill cuttings being safely managed in Ohio?

Yes. Drill cuttings shipped off-site for disposal in Ohio must be sent to a licensed solid waste landfill. These landfills are engineered to help ensure that waste is safely contained and does not pose a threat to the public and environment. Landfills also have reporting and recordkeeping requirements to ensure compliance with environmental laws and regulations.

Where can I get more information?

For more information on shale oil and gas drilling in Ohio, visit ODNR's website at www.ohioshaleinfo.com and Ohio EPA's website at www.epa.ohio.gov/shale.aspx.