



Safe Management of Waste Generated during Shale Gas Operations

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Exploration and exploitation of hydrocarbon deposits, regardless of their type, are connected with the generation of waste, which may have various environmental effects. Such wastes may pose a serious risk to the surrounding environment and public health because they usually contain numerous potentially toxic chemicals. Waste associated with exploration and exploitation of unconventional hydrocarbon deposits is composed of a mixture of organic and inorganic materials, the qualitative and quantitative composition of which changes widely over time, depending on numerous factors. As a result the proper characteristic of this type of waste is very important. Information gained from detailed chemical analyses of drilling chemicals, drilling wastes, and flowback water can be used to manage shale gas-related wastes more appropriately, to develop treatment methods, to store the waste, and assess the potential environmental and health risk. The following paper will focus mainly on the results of research carried out on waste samples coming from the unconventional hydrogen exploration sites. Additionally, regulatory frameworks applicable to the management of wastes produced during this type of works will be discussed. The scope of research concerning physicochemical parameters for this type of wastes will also be presented.

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