



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Bureau of Waste Management

Beneficial Use of Marcellus Shale Waste

Solid Waste Advisory Council

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Bureau of Waste Management

March 6, 2014

Stabilization of Brownfield Sites

General Permit WMGR097R017:

- Use of Drill Cuttings and Sediments at Brownfield Sites.
 - Drill cuttings and sediments are pre screened for Volatile Organics, Total Petroleum Hydrocarbons, TCLP Heavy Metals, and TENORM.
 - Drill cuttings stabilized with Portland Cement.
 - Cuttings and amendments mixed in a pugmill to achieve up to a 95% field compaction rate.

Asphalt

General Permit WMGR097R021:

- Recycled Drill Cuttings in the Manufacturing of an Asphalt Road-Base Cold Mix Product.
 - Development of a Cold Mix – Black base material from drill cuttings and crushed aggregate screenings as an alternative to hot asphalt.
 - Provides a thin overlay to protect deteriorating surfaces on low volume, low speed roads.
 - Is also used to prevent surface water from penetrating old, weathered pavements.

Drill Cutting Stabilization

General Permit Application WMGR097R025:

- Use of Drill Cuttings for Soil Stabilization of Well Pads and Access Roads.
 - Cuttings sampled for Bulk Density, Moisture, Organic Content and Leachability.
 - Cuttings Screened for TENORM.
 - Additives to soil include cement, lime/fly ash, and lime pozzolan.
 - Cement soil compacted to a density of at least 98% of the average in-place control area density.

Centralized Wastewater Treatment

General Permit WMGR123:

- Processing and Beneficial Use of Processed Liquid Wastes Generated in Oil and Gas Well Sites and Associated Infrastructure.
 - Uses closed loop processes that allow the return of treated liquid waste to oil and gas well sites for reuse.
 - Solids generated through treatment are processed for disposal in a landfill.
 - Wastes include brine, flow back & drilling muds and waters.
 - Minimizes water withdrawal and emission impacts on valuable water resources.



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