

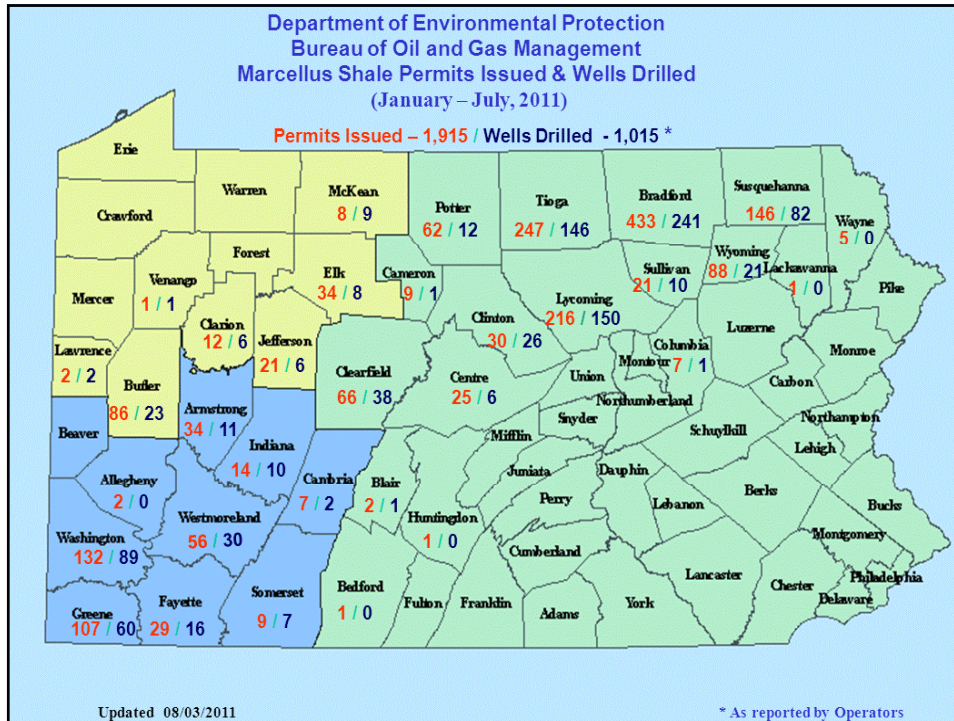
**PA DEP Waste Update
Delaware Valley Air and Waste Management
Association**

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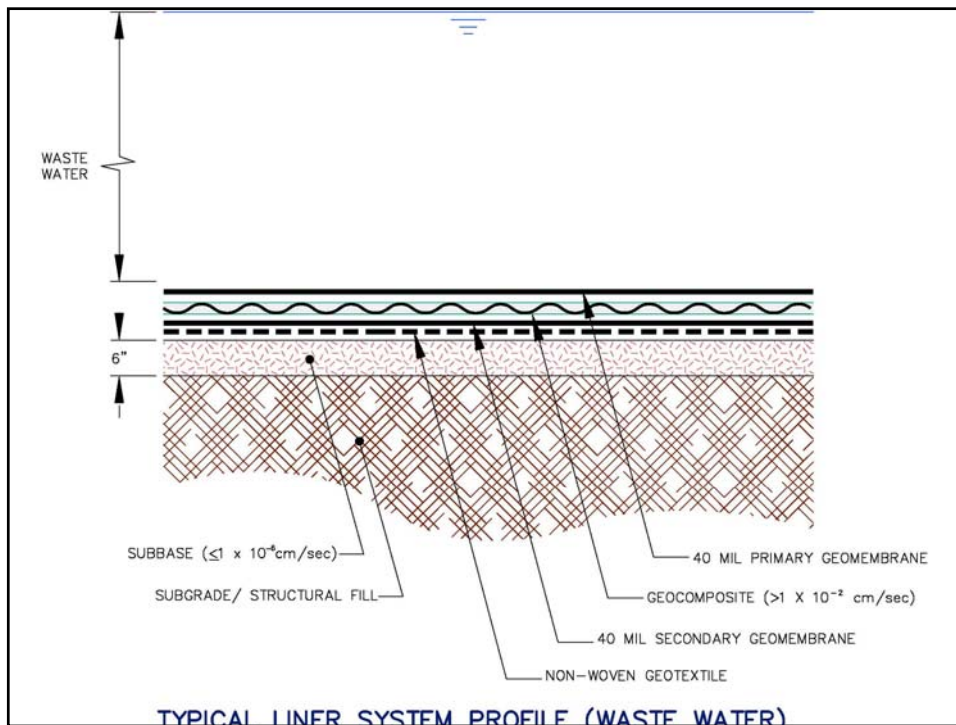
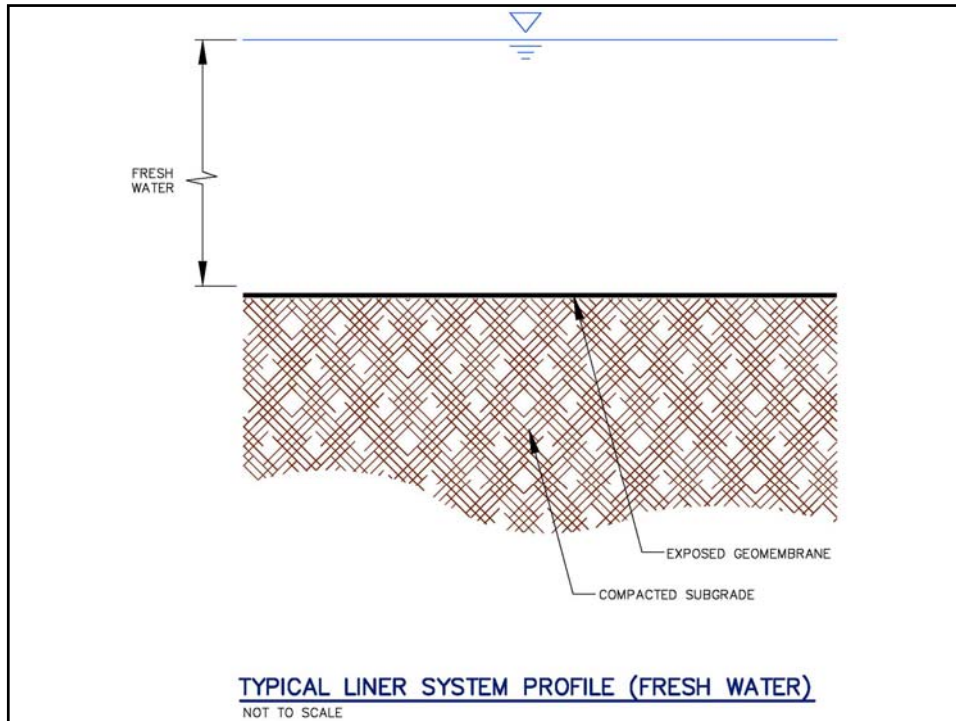
Waste Management Update

- Marcellus Shale Waste Management
- Regulation Packages
 - Regulated medical and chemotherapeutic waste
 - Waste transportation and safety
 - Municipal waste landfills



OIL AND GAS, AND WELL DRILLING WASTES

- 801 **Drilling Fluids, Residuals**
- 802 **Brine** (natural salt water separated at oil & gas wells)
- 803 **Drilling Fluid Waste** (oil & gas drilling mud, other drilling fluids other than fracking fluid and spent lubricant)
- 804 **Fracking Fluid Waste** (oil & gas drilling fracturing fluid, flow-back fracturing fluid, flow-back fracturing sand)
- 807 **Basic Sediment** (oil & gas production storage impurities, sediment from produced oil at storage tank battery)
- 808 **Servicing Fluid** (oil & gas production well maintenance/work over fluids, oil/water-based mud and foam)
- 809 **Spent Lubricant Waste** (spent oil & gas drilling lubricants, spent plug drilling lubricants)
- 810 **Drill Cuttings** (oil & gas drill cuttings using a drilling mud formula)



Freshwater Impoundment



Centralized Impoundment



Residual Waste Regulations

- 25 PA Code Chapters 287- 299 (pacode.com)
 - 287.2 (g) – structure used for the disposal , storage or processing of residual waste located on the well site is managed under Chapter 78 (oil and gas wells)
- Generator Requirements
 - Chapter 287.51- 287.55
- Transportation and Storage Requirements
 - Chapter 299
- Treatment, Processing, Disposal
 - Chapters 287, 299
 - Chapter 271.611

Management of Marcellus Shale Wastes

- Drill cuttings/Wastewater Treatment Sludges
 - Drill cuttings: vertical/horizontal/mixed, bulking materials
 - Form U/Landfill disposal
 - Over 1 million tons/year at municipal and commercial residual waste landfills, radiation monitoring data
 - Double liner system with one liner composite liner, Leachate collection
 - 271.611 (compatible with other wastes, liner system and leachate collection and treatment system)
 - Reduced analytical possible
 - Facility basis, same generator and drilling fluids
 - Statistical analysis/certification
- ADC

Management of Marcellus Shale Wastes

- Wastewater Processing
 - CWT/General Permit for Processing and Beneficial Use
 - General Permits
 - GP R119, R121, R123
 - Treated wastewater used to frack wells
 - Managed as waste until used to frack well
 - R123 draft modifications
 - Consolidation
 - Treatment standards for storage as fresh water
 - WMGM041



Marcellus Shale Wastes Storage

- Storage & Transportation Requirements (Chapter 299)
 - Stored and transported as residual waste
 - Wastewater stored as residual waste after processing
 - Tanks and Impoundments
 - Portable Tanks
 - Piping

Marcellus Shale (cont)

- Drill Cuttings/ Beneficial Use Proposal
 - Received inquires concerning use as road base, asphalt mix, well pad construction, concrete mix
 - General Permit WMGR097
- Landfills
 - Drill cuttings
 - Wastewater treatment sludges
 - TENORM tracking
- Rail Transfer Stations

Regulation Packages

Regulated Medical Waste

- Infectious Waste → Regulated Medical Waste
 - Sign changes and in regulations
- General Permits
 - Outlines procedure used by DEP for renewal of GP's
 - Determination of Applicability removed
- Permit-By-Rule for Transfer Facilities
 - Must store waste less than 72 hours
 - Previously exempt from permitting requirements

Regulation Packages

Regulated Medical Waste (cont)

- Processing Facilities

- Requirements have been amended regarding:

- Testing and validation requirements have been added for autoclaves.

- Frequency of calibration

- » At installation and as suggested by manufacturer (minimum of once per year)

- Temperature requirements

- » Minimum of 250°F(121°C)

- Inactivation of:

- » Mycobacteria(6 log 10)

- » *Geobacillus stearothermophilus* spores(4 log 10)

Regulation Packages

Regulated Medical Waste (cont)

- Recordkeeping

- Eliminates mandatory generator initiated paper manifest system

- Standard industry practices to be used

- US Postal Service

- May be used to ship RM waste

- Must comply with Postal Service regulations

Regulation Packages

- Other Regulation Packages
 - Waste transportation and safety
 - Municipal waste landfills
 - Exclusionary criteria
 - Permit terms
 - ADC
 - Overfilling
 - Leachate storage
 - Timeline
 - Retirement

Questions

