

Soil Type Determination

Laura Luther, Chief

Tanks Remediation Unit

Missouri Department of Natural Resources



Missouri
Department of
Natural Resources

- Interim Guidance Pertaining to Application of the New Soil Type Dependent Tier 1 Risk-Based Target Levels, March 8, 2005
- Soil Type Determination Guidelines, March 18, 2005

Soil Type Determinations

- All Determinations Must be Sealed by a Qualified Professional Engineer or Geologist Registered in the State of Missouri
- All Determinations Must be Supported by Site Specific Documentation

Soil Type Determinations

- Follow Guidance
- Use Appropriate Soil Analysis Methods
- Utilize USDA Textural Classification Chart
- Submit Supporting Documentation

Soil Type Determinations

- Sand – Particle size greater than 0.05 mm
- Silt – Particles 0.05 to 0.002 mm
- Clay – Particle size smaller than 0.002 mm

Soil Type Determinations

- Gravel, Chert, Stones, Pebbles, etc. included in Soil Type 1 (sand).
- Hydrometer Test required for Soil Type 3 determination
- Laboratory data sheet showing sieve and hydrometer results to support determination

Soil Type Determinations

- Soil Determination Sample representative of soil in area of contamination
- Soil Determination Sample collected from each affected property
- Soil Boring Logs must support Soil Determination
- Soil Determination Sample collected from soil layer where preferential movement most likely to occur

Fill Material

- Default to Soil Type 1 (sand)
- Support for Variation
 - Sufficient number of boring logs showing homogeneity of material vertically and horizontally across the entire plume
 - No extraneous materials (bricks, wood, etc.)
 - Compaction data
 - Analytical data supporting soil type

Fill Material

- Site-specific determination documentation
 - Thickness of fill material
 - Thickness of native material between fill and contamination
 - Vertical and Horizontal distance between contamination and receptor
 - Determination of fill as preferential pathway

Old Sites

- All Soil Data Collected Prior to Implementation of Soil Type Dependent Guidance (March 2005)
- Soil Type Determination Supported by Site Specific Documentation
- Soil Type Determination Supported by Literature

Thank You

Laura Luther

laura.luther@dnr.mo.gov

(573) 522-2092