

MOBILITY PATHWAYS OF TRACE METALS FROM COAL UTILIZATION BY-PRODUCTS



Frontier GeoSciences Inc. (Frontier) is an advanced research and analytical laboratory specializing in the determination and characterization of mercury and metals in industrial and environmental processes.

Frontier started performing contract research for Electric Power Research Institute in 2001. During these early years of applied research on mercury and metals cycling in coal-fired power plants, Frontier discovered the fundamental underpinnings of mercury and metals measurements that lead to the development of key digestion and analytical techniques.

The analytical techniques have been instrumental in resolving the understand of mercury and metals in industrial and environmental processes and are the basic tools that today provide accurate and precise data so that our clients can make confident, informed decisions.



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WHAT IS CUBs?

Frontier GeoSciences Inc. has been working on a Department of Energy contract to study the mobility pathways (leachability, volatility and methylation) for trace metals in coal utilization by-products (CUBs) that later become components of:

- Soil fill
- Landfill cover
- Asphalt
- Wallboard
- Cement

WHAT IS THE PURPOSE?

Coal-fired powered planets are installing control technologies to remove mercury and other pollutants from air emissions. The Department of Energy wants to understand the impact that these control technologies have on metals mobility in CUBs.

APPROACH

- Total Metals in CUBs
- Chemical Leaching
- Microbial Leaching
- Volatility Studies

TOTAL METALS IN CUBs

Total Metals in CUBs Before (Baseline) and After Control Technology (CT) Operations

