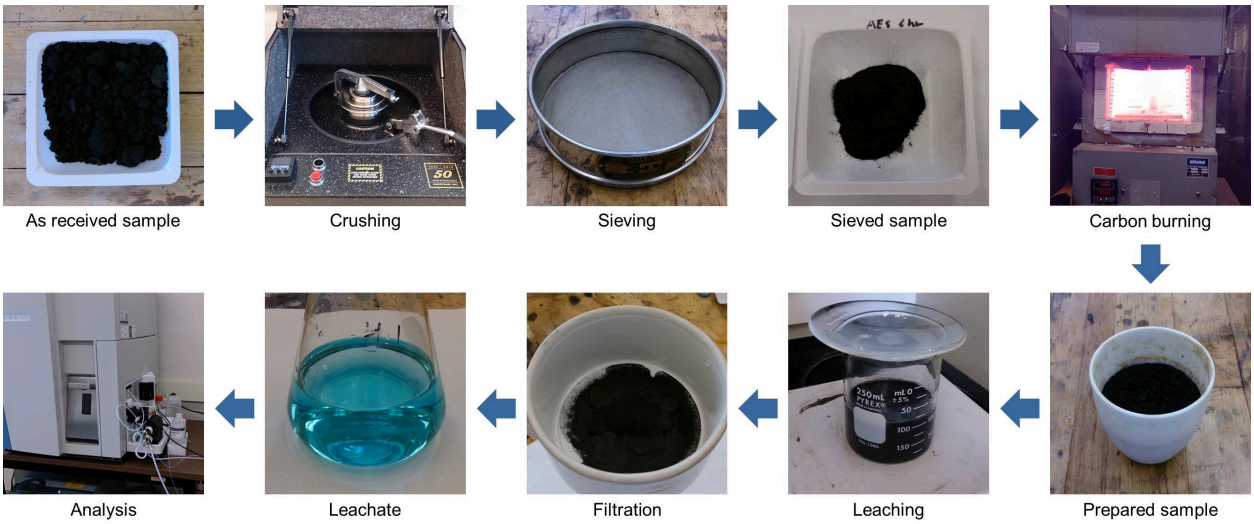
Recovery of Valuable Metals from Fines



This investigation recovered metals and materials from incinerator waste fines, coal and coke ash, foundry bag-house dusts, automotive shredder residue, aluminum smelting dust, etc. They are a viable source of metals, such as V, Ni, Fe and Al, but the waste poses a risk to the environment. Recent studies estimate that fine content accounts for 50% of the waste stream. This project looked at ways to recover metals and materials from coal fly-ash, bottom ashes from municipal solid waste incinerators, and shredded light fluff from end-of-life vehicles.

The objective of this project was to recover metals and materials from:

- Bottom ashes from municipal solid waste incinerators (finished)
- Shredded light fluff from ELV (finished)
- Fly ashes from power plant
- Foundry baghouse dust
- Aluminum scrap
- Petcoke ash

Specifically, the major goals of this project were:

- Conduct a literature review on current practices – collection, treatment & disposal
- Report on contained metal value
- Develop a process flow sheet for metals recovery
- Conduct and economic viability analysis
- Design of equipment and experiments for pilot scale testing

Overview

This research project looked at ways to recover valuable metals using inexpensive processes from various types of industrial fines while helping in reduction of environmental waste.

Researchers

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