

Applied Petrology Laboratory



Dr. James C. Hower
Principal Research Scientist

What does this group do?

- Sampling at coal mines
 - Mine samples from Kentucky and elsewhere
 - Sampling at coal preparation plants
 - Studies of emissions from coal fires



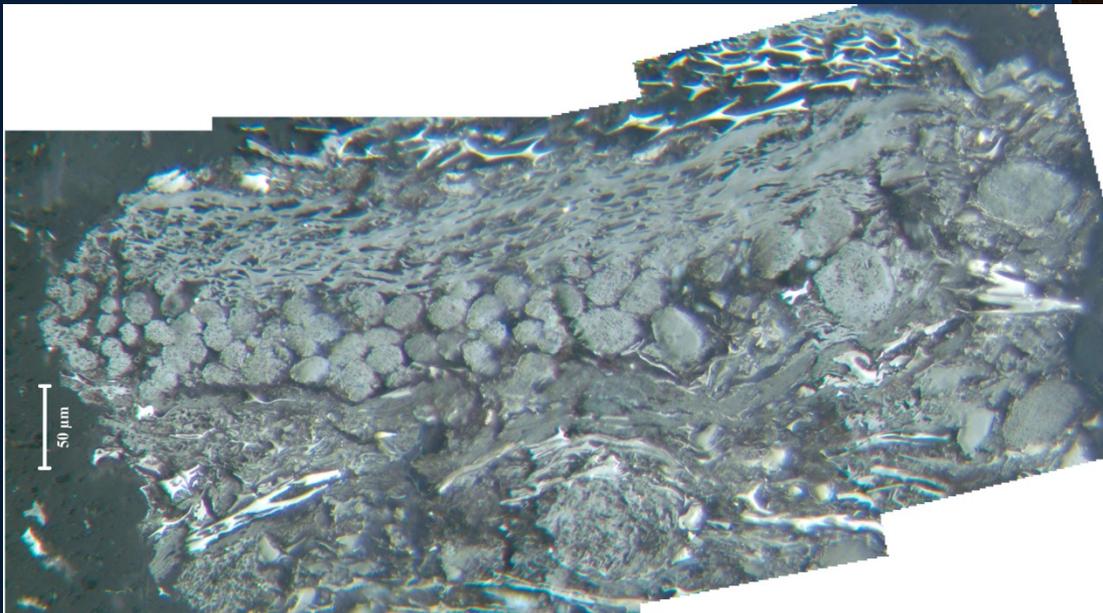
What does this group do?

- Sampling at power plants
 - Sampling for special projects, such as Rare Earth studies



What does this group do?

- Petrographic examination of coal and fly ash
- Coordination of geologic and/or power plant information with petrology and chemistry in thorough studies of coal or combustion products



On-going & new projects

- Can Rare earth elements be economically recovered from coal and coal combustion products?
 - Current funding from NSF and DOE
 - Projects with UK Mining Engineering, PSI, Duke University Civil & Environmental Engineering; Univ. North Dakota EERC



Additional info

- **Where does the Applied Petrology lab get funding from?**

National Science Foundation; U.S. Department of Energy; Department of Defense; U.S. Geological Survey; U.S. Environmental Protection Agency

- **Where does the Applied Petrology lab publish?**

Fuel ; International Journal of Coal Geology; Energy & Fuels; Environmental Science & Technology; Coal Combustion & Gasification Products

- **Where does the Applied Petrology lab present its results?**

Geological Society of America; Pittsburgh Coal Conference; The Society for Organic Petrology; World of Coal Ash

- **Where do students that work in the Applied Petrology lab go afterwards?**

*Industry (e.g. Chesapeake Gas; Pioneer; ConocoPhillips)
Government (e.g. Kentucky Natural Resources; Kentucky Geological Survey; USGS)
Graduate School (e.g. Ohio State; UNLV; Kentucky; New Mexico Tech)
Academia (e.g. Queensland; Morehead; Northern Kentucky)*