NETL RESEARCH & INNOVATION CENTER

NETL RESEARCHERS CREATE TECHNOLOGY TO DETECT ALUMINUM IMPURITIES IN RARE EARTH ELEMENT SOURCES

Monitoring the effectiveness of aluminum removal processes during rare earth element (REE) production from liquid streams reduces cost, saves time, and helps ensure a high-purity REE product.





Aluminum can interfere with quick and effective extraction of valuable REEs from coal waste byproducts.

RESEARCH PRIORITY

- The new NETL-developed sensing film emits blue light in the presence of water that becomes more intense in the presence of aluminum ions.
- It is a simple, scalable method for fabricating high-performance sensors to detect aluminum impurities in REE feedstocks.
- Removing and refining aluminum from liquid sources can also provide an additional domestic source of aluminum.



PERFORMER



NETL ANNUAL ACCOMPLISHMENTS



Fossil Energy and Carbon Management

Al(III)-Selective Emission

