

Lu

lutetium

Solid at 20°C
[Ar] 4f¹⁴5d¹6s²



Rare Earth Element Resource Evaluation of Coal Byproducts:

*A case study from the
Powder River Basin,
Wyoming*

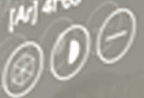
69

Tm
thulium

[168.934218]

FREE / CM

Solid at 20°C
[Ar] 4f¹³6s²



39

Y
yttrium

[188.90584]

FREE / CM

Solid at 20°C
[Ar] 4d¹5s²

Authors

- D.A. Bagdonas
- A.J. Enriquez
- K.A. Coddington
- D.C. Finnoff
- J.F. McLaughlin
- M.D. Bazilian
- E.H. Phillips
- T.L. McLing

WHAT THIS STUDY IS ABOUT

Much of this work focuses on unconventional potential ore stocks, including coal and coal byproducts. This investigation focuses on coal byproducts generated as ash from coal burning power stations for rare earth element resource potential.

WHAT THE RESEARCH TEAM CONCLUDED

This study suggests a robust opportunity for development of Wyoming based coal byproducts as a partial solution to current domestic rare earth element short falls and strategic needs.

WHY IT WAS NEEDED

Domestic Rare Earth Element sources and production are limited in the United States and currently rely on final processing overseas. Increasing demand and resource security domestically has led to significant investigation into rare earth element domestic resources.

CITATION

D.A. Bagdonas, A.J. Enriquez, K.A. Coddington, D.C. Finnoff, J.F. McLaughlin, M.D. Bazilian, E.H. Phillips, T.L. McLing,

Rare earth element resource evaluation of coal byproducts: A case study from the Powder River Basin, Wyoming,
Renewable and Sustainable Energy Reviews, Volume 158, 2022, 112148, ISSN 1364-0321, <https://doi.org/10.1016/j.rser.2022.112148>. (<https://www.sciencedirect.com/science/article/pii/S1364032122000764>)



Read The Paper

bit.ly/CEGR-Publications

[sciencedirect.com/science/article/pii/S1364032122000764](https://www.sciencedirect.com/science/article/pii/S1364032122000764)