

# Elements

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## Rare Earth Elements

Guest Editors: **Anton R. Chakhmouradian and Frances Wall**



### Rare Earth Elements: Minerals, Mines, Magnets (and More)

Anton R. Chakhmouradian and Frances Wall



### Dynamics in the Global Market for Rare Earths

Gareth P. Hatch



### Rare Earth Mineralization in Igneous Rocks: Sources and Processes

Anton R. Chakhmouradian and Anatoly N. Zaitsev



### Hydrothermal Mobilisation of the Rare Earth Elements: A Tale of "Ceria" and "Yttria"

Anthony E. Williams-Jones, Artashes A. Migdisov, and Iain M. Samson



### Diversity of Rare Earth Deposits: The Key Example of China

Jindrich Kynicky, Martin P. Smith, and Cheng Xu



### Rare Earth Mining and Exploration in North America

Anthony N. Mariano and Anthony Mariano Jr.

**ABOUT THE COVER:**  
Peralkaline rocks of the Lovozero plateau (in the background) in the Kola Peninsula host loparite deposits that have been exploited in the Karnasurt mine (pictured here) since 1951 and served as the principal source of rare earths for Soviet industry. Loparite production has declined drastically since the collapse of the USSR due to market pressure and other economic problems. The deposits of weathering-resistant, eudialyte-rich nepheline syenite making up the "roof" of the Lovozero plateau could breathe new life into this region and the entire Russian rare earth industry if technologists figure out a way to profitably recover these elements from eudialyte.

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