

REE mineral-bearing rocks found in eastern Mojave Desert

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Scientists from the U.S. Geological Survey (USGS) have mapped a rare earth element deposit of magmatic carbonatite located in the Mountain Pass region of the eastern Mojave Desert. The new report details the geophysical and geological setting of the deposit, including a map of the deposit's subsurface extent, to help land-use managers evaluate sites for further exploration. The report was recently published in the Geological Society of America's online journal, *Geosphere*.

Rare earth elements (REEs) are critical to emerging industrial technologies including strategic defense, science and medical, automotive and transportation, and civilian electronics. However, large economic REE sources are unique and uncommon worldwide. International concerns about increasing demand and global supply vulnerability have prompted many countries, including the U.S., to explore and assess domestic REE resources. Increased efforts to characterize geologic processes related to REE deposits in the U.S. have focused attention on the world-class Mountain Pass, California, deposit located approximately 60 miles southwest of Las Vegas, Nevada.

In their study, collaborators K.M. Denton and USGS colleagues use geophysical and geological techniques to image geologic structures related to REE mineral-bearing rocks at depth. Their work suggests REE minerals occur along a fault zone or geologic contact near the eastern edge of the Mescal Range. These findings could prove as a useful guide to future exploration efforts.

More information: Kevin M. Denton et al. Geophysical characterization of a Proterozoic REE terrane at Mountain Pass, eastern Mojave Desert, California, USA, *Geosphere* (2019). [DOI: 10.1130/GES02066.1](https://doi.org/10.1130/GES02066.1)

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