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## Critical Minerals in New Mexico

Hi I am Virginia McLemore, Economic Geologist for the New Mexico Bureau of Geology at New Mexico Tech in Socorro. Today I am going to chat about critical minerals in New Mexico.

In 2019 the Departments of Interior (US Geological Survey) and Energy (DOE) created a list of critical minerals. In 2020, the USGS released the first list of critical minerals, which was revised in 2022. Critical minerals are defined as *commodities essential to the economic and national security that are from a supply chain that is vulnerable to disruption, and is essential in the manufacturing of a product, needed for. economic or national security.* Many critical minerals are 100% imported into the U.S. As demands and supplies evolve, criticality of a commodity can change with time and geography.

The New Mexico Bureau of Geology is currently working with the USGS, DOE, Arizona Geological Survey, and Texas Bureau of Economic Geology to examine some of the critical minerals in the state.

Rare earth elements are a group of critical minerals that are essential in many of our electronics, batteries, magnets and other technologies needed to reduce greenhouse gases. REE are found in the Gallinas and Cornudas Mountains, among other places in New Mexico. New geologic mapping has enhanced our understanding of their economic potential, and could be mined in the future.

Lithium is another critical mineral found in New Mexico. Lithium is essential to batteries, which are needed for computers and cell phones as well as electronic cars. Lithium is found in brines and clays from some of New Mexico's dry lake beds. In the adjacent mountains, volcanic rocks are enriched in lithium. The lithium dissolves and is washed into the basins as runoff during rainstorms, forming subsurface brines enriched in lithium. The lakes then dry out and leave lithium in clay deposits. We are not sure if any of these deposits in New Mexico have enough lithium to be economic. Additional work is underway.

Other critical minerals are found in New Mexico and are being studied. Stay tuned to the New Mexico Bureau of Geology web site for updates. This is Earth Science Week and I am Virginia McLemore of the NM Bureau of Geology.