

SEG 2026 Conference in Salt Lake City, United States

The Critical Mineral Potential of Texas

Marek Locmelis^{1,2}, Julia F W Gale¹, Brent A Elliott¹, Sarah J Elliott¹, Richard Kyle^{1,2}, Mert Ugurhan¹, Harold H Rogers¹, Aaron R Averett¹, Bridget R Scanlon¹, Dallas Dunlap¹

¹Bureau of Economic Geology, Jackson School of Geosciences, University of Texas at Austin, Austin, United States, ²Department of Earth and Planetary Sciences, Jackson School of Geosciences, University of Texas at Austin, Austin, United States

The United States Department of the Interior recognizes 60 commodities as critical minerals essential for economic stability and national security. The United States relies heavily on imports for most of these minerals, and fragile supply chains pose significant risks to key industries, including advanced energy and computing technologies, the automotive sector, and defense applications. While Texas is a leading global producer of fossil fuels and industrial minerals such as aggregates, sand, and cement, its critical mineral potential remains largely untapped even though more than 30 critical minerals have the potential to be produced locally.

To support the evaluation and development of critical mineral resources in Texas, the Bureau of Economic Geology at the University of Texas at Austin, which serves as the state's geological survey, published the 2026 Report of Investigations 'Economic Mineral Resources of Texas'. This presentation summarizes the report and describes the geologic context, mine and quarry locations, and production data for key resources, including hard rock deposits, industrial minerals, brines, and mine waste materials.

The presentation also provides an overview of regulatory frameworks, economic viability, and the socio-environmental impacts of mining and mineral production in Texas. In addition, it introduces a new GIS-based database and online map portal designed to support decision-making by stakeholders in government, industry, academia, and the general public. These tools enable location-specific resource assessment, environmental planning, and strategic monitoring of critical mineral supply chains.