Syntax

The Critical Minerals Powering the Modern Economy

Madeleine Sullivan January 22, 2026

Critical minerals refer to a broad category of raw materials (including minerals, elements, and other substances) that are crucial to modern industrial activity. Of particular interest are rare earth elements, a group of seventeen metallic elements that are essential to industries such as electronics, batteries, defense and satellite systems, medical technologies, and energy.[1] In this piece, we explore the investment performance of companies involved in the extraction and processing of critical minerals, finding that those with higher risk characteristics have outperformed recently.

In 2025, The U.S. Geological Survey (USGS) developed a list of critical minerals, 15 of which are rare earth elements, that are both essential to the nation's economic activity and whose supply chains are vulnerable to disruption, either due to geopolitical factors, trade policy, or rapidly increasing global demand.[2] The list was derived from an initial set of 84 mineral commodities, which were ranked according to their economic importance and likelihood of trade disruption. Each commodity was assigned a risk probability weighting, calculated by multiplying the likelihood of a trade disruption scenario by the impact of that scenario, and proposed for inclusion on the final list if the risk probability was classified as high, elevated, or moderate.

The published 2025 List of Critical Minerals includes 13 high-risk minerals, 26 elevated-risk minerals, 11 moderate-risk minerals, one single point of failure (meaning limited, negligible, or negative risk but only a single domestic producer), and three qualitatively assessed minerals.[3]

Key Players & Geopolitics

The global critical minerals supply chain depends on three key dimensions: mining, refining and processing, and reserves ownership. While critical mineral supply and

proven reserves are, to some extent, geographically dispersed, with proven deposits across the Americas, East and Southern Africa, Australia, and Southeast Asia, the production and processing of critical minerals is dominated by a few key players. China is currently the dominant player in rare earth minerals, accounting for 70% of global rare earth mining, particularly in the mining of natural graphite, dysprosium, and neodymium, and nearly 90% of global rare earths processing. Other key players include Australia (lithium mining), the Democratic Republic of the Congo (cobalt mining and reserves ownership), and Chile (copper production and lithium reserves).[4]

Minerals highlighted in **yellow** are **rare earth minerals**. All others are critical minerals.

High-Risk Minerals			
Lutetium	Dysprosium	Gallium	Germanium
Terbium	Gadolinium	Tungsten	Samarium
Magnesium	Yttrium	Potash	Rhodium
Niobium			

Elevated-Risk Minerals			
Barite	Graphite	Indium	Vanadium
Paladium	Manganese	Lanthanum	Praseodymium
Titanium	Platinum	Ruthenium	Iridium
Cobalt	Erbium	Chromium	Tin
Bismuth	Hafnium	Aluminum	Thulium
Silicon	Neodymium	Antimony	Copper
Zinc	Silver		

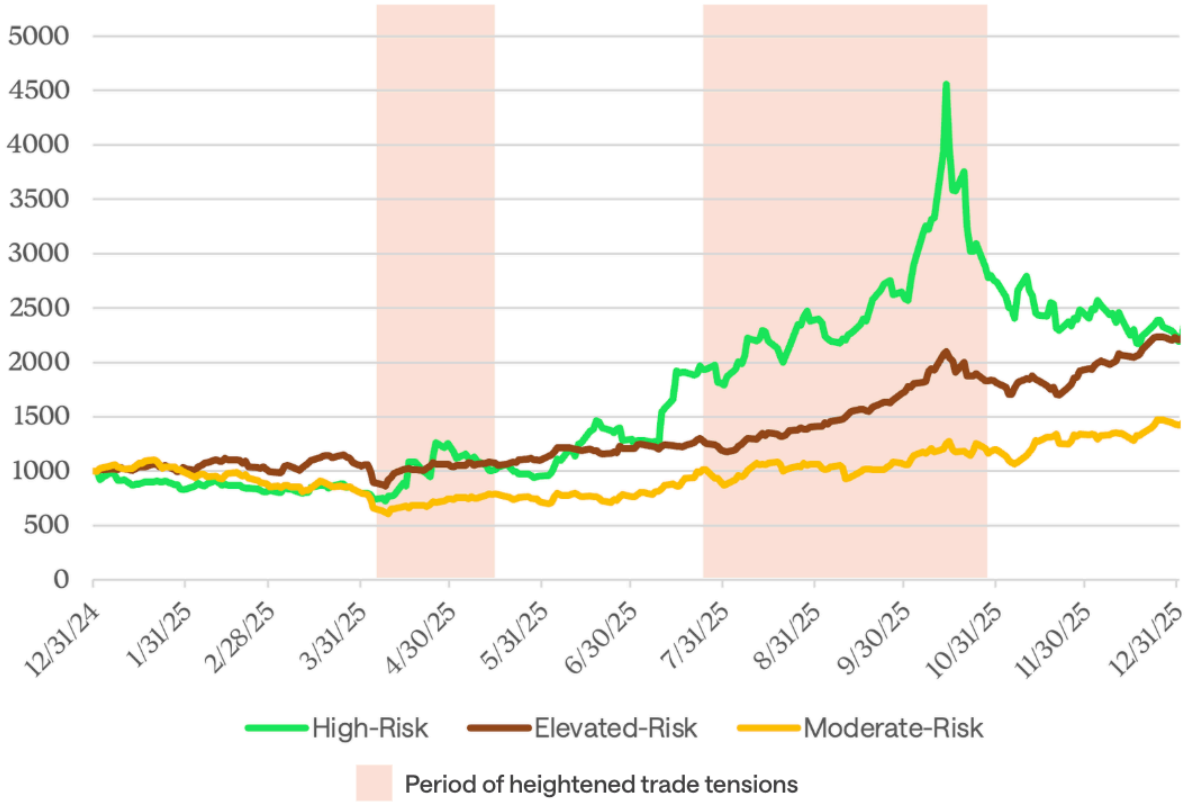
Moderate-Risk Minerals			
Nickel	Tantalum	Holmium	Fluorspar
Rhenium	Cerium	Beryllium	Europium
Ytterbium	Lithium	Lead	Zirconium*
Cesium**	Rubidium**	Scandium**	

* Single Point of Failure
** Qualitatively Assessed

This concentration in production and processing capacity has created structural vulnerabilities within the global supply chain. In April 2025, China announced export restrictions on rare earth elements which, while falling short of a total ban, curbed the sale of mined rare earth minerals, magnets, and other finished products to foreign markets.[5] In response, The Trump administration pursued bilateral agreements with the governments of Japan,[6] Ukraine,[7] and Australia,[8] alongside partnerships with private firms, aimed at expanding U.S. access to and domestic production of rare earth minerals.[9] As the Trump administration's second term has progressed, establishing a domestic supply chain of critical mineral and rare earth elements and eliminating foreign, particularly Chinese, dependencies has become a policy priority.

Supply Chain Risk Premium?

How have investors reacted to risk dynamics in the critical mineral space? We leveraged Syntax's FIS product line data to examine returns of global companies generating revenue from or invested in rare earth and critical minerals mining, processing, or reserves ownership from December 31, 2024 through December 31, 2025. Following the USGS's methodology, we grouped these companies into "high", "elevated", or "moderate" categories according to the risk classification status of the mineral(s) they mine, process, or invest in. Companies mining, processing, or owning reserves of minerals such as samarium, rhodium, or niobium were categorized as high-risk; those dealing with minerals such cobalt, graphite, or copper were elevated-risk; and lithium, ytterbium, and tantalum moderate-risk. We identified five companies engaged in the supply chain for high-risk minerals, 24 for elevated-risk minerals, and six for moderate-risk minerals.



Price return, 12/31/2024 - 12/31/2025, for global companies whose business activities include extracting, processing, or owning reserves of rare earth minerals or critical minerals based on Syntax FIS® classification. Mineral risk groupings are based on USGS mineral risk classifications. Group price return is calculated as the equally-weighted average return of companies belonging to the group. Shading indicates periods of heightened trade tension, 4/4/2025 - 5/12/2025 and 7/29/2025 - 10/30/2025. Sources: Refinitiv, Syntax Data.

We found that companies involved with high-risk minerals rare earth and critical minerals witnessed a 119% increase in their stock prices during 2025; companies involved with elevated-risk minerals saw a 121% increase in their stock prices; and companies involved with moderate-risk minerals experienced a 43% increase in their stock prices.

The data shows the performance of high-risk minerals diverge from others during periods of high trade tension and converge - or, at least - stay steady - during periods of low tension. Indeed, the major divergence in 2025 begins in April as trade tensions between the US and China increased, particularly with the implementation of Chinese export restrictions on rare earth minerals.[10] Similarly, the late September spike and subsequent fall in high-risk mineral stock performance coincides with developments in the US-China relationship, including a threat of further export restrictions and the ensuing Trump-Xi summit that paused back certain restrictions.[11] However, the dispersion of returns within these categories is wide; while the underlying mineral's risk status and geopolitical environment explains some of the returns, other factors, including size, geography, and idiosyncratic factors are still important.

Despite volatile foreign and trade policy decisions under the Trump administration, it is clear that investment is surging and rare earth and critical minerals; the modern economy's demand for these minerals shows no sign of slowing down. But as we enter a new period of heightened trade tension driven by concerns over Greenland, it will be worth observing whether last year's performance patterns persist. Will companies engaged with high-risk minerals once more earn a premium over those involved with less risky minerals? Syntax's data offers a precise way to understand company business exposures, identify investment theses, and find the companies that fit these trading opportunities.

Company Spotlight

High-Risk Minerals | **2025 Price Return 224%**

MP MATERIALS

- MP Materials Corp owns and operates the Mountain Pass Rare Earth Mine and Processing Facility in San Bernardino, California, the only rare earth mining and processing site of scale in North America and thus a key player in the process of establishing a domestic rare earth supply chain.
- About 70% of MP Materials Corp's reported 2024 revenue derives from the mining of rare earth concentrates, while the other 30% of their revenue derives from the sale of processed minerals and metals, specifically neodymium-praseodymium oxide.
- MP Materials Corp reports reserves ownership of the rare earth mineral samarium, the highest ranking mineral on the USGS list.

Elevated-Risk Minerals | **2025 Price Return 184%**

USAC US ANTIMONY

- United States Antimony Corp is involved in the mining and processing of critical minerals and metals. They own and operate mines and processing facilities in Montana and Idaho.
- Approximately 76% of the United States Antimony Corp's reported 2024 revenue derives from antimony mining and processing, while the remaining 24% derives from the mining and processing of other minerals and metals, including silver.
- United States Antimony Corp is the sole domestic U.S. supplier and processor of antimony, a critical mineral and key component of lead-acid batteries, munitions, semiconductors, and flame retardants.

Moderate-Risk Minerals

2025 Price Return
64%

Albemarle®

- While otherwise known for their expertise in industrial specialty chemicals – they manufacture chemicals for a variety of industries as well as catalysts for oil refining – Albemarle Corp is a key player in the American lithium mining and processing industry and, subsequently, a crucial supplier to the lithium battery industry.
- About 56% of the company's reported 2024 revenue derives from lithium mining and processing.

1. https://profession.americangeosciences.org/society/intersections/faq/what-are-rare-earth-elements-and-why-are-they-important/

2. https://www.usgs.gov/programs/mineral-resources-program/science/what-are-critical-minerals-0#overview

3. https://www.usgs.gov/media/images/2025-draft-list-critical-minerals 3

4. https://evboosters.com/ev-charging-news/the-countries-that-dominate-the-critical-material-supply-chains/

5. https://www.reuters.com/world/china-hits-back-us-tariffs-with-rare-earth-export-controls-2025-04-04/

6. http://mining.com/us-and-japan-strike-rare-earths-deal/

7. https://www.aljazeera.com/news/2025/11/4/putin-orders-roadmap-for-russian-rare-earths-extraction-by-december

8. https://www.bbc.com/news/articles/cly9kvrdk2xo

9. https://apnews.com/article/vulcan-reelement-rare-earths-us-government-investment-17647d7219ab8b8098fce5fc66975fdd

10. https://www.reuters.com/world/china-hits-back-us-tariffs-with-rare-earth-export-controls-2025-04-04/

11. https://www.reuters.com/world/china/rare-earth-miners-fall-after-us-china-truce-pause-tariffs-export-curbs-2025-10-27/