



# Overview of Significant Mining Issues and Opportunities

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# Agenda

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Interesting Industry Changes

# How the Mining Outlook for 2020 and Beyond Benefits the State Land Trusts

- Continued transition to a low carbon economy
- Social license, environmental, and safety policies become increasingly important
- Accessing new frontiers, technologies, and mineral localities
- Rising geopolitical risks and economic protectionism
- The struggle for the new mining workforce



# Executive Order 13817: A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals

- Directs Secretary of Commerce and selected executive branch agencies to:
  - Reduce the Nation’s reliance on critical minerals;
  - Increase critical minerals recycling and reprocessing technologies;
  - Find technological alternatives to critical minerals;
  - Accessing critical minerals through investment and trade with our allies and partners;
  - Improve topographic, geologic, and geophysical mapping and make data accessible to private sector;
  - Streamline permitting and review processes and enhancing access; and
  - Increase discovery, production, and domestic refining

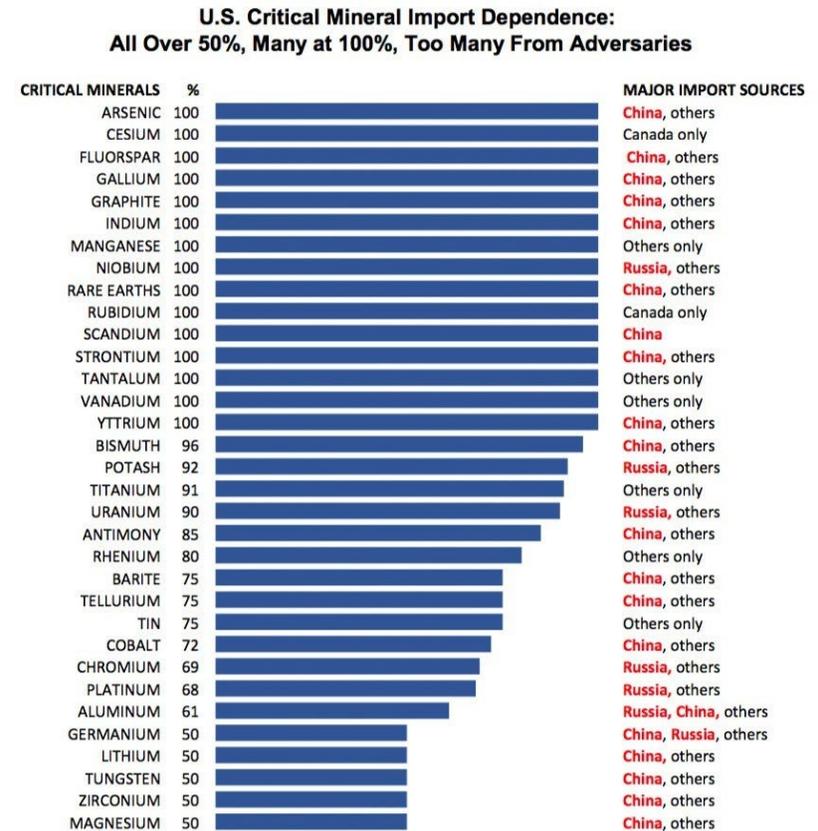
# Critical Minerals are Deemed Essential to U.S Economic and National Security

## Critical Minerals List



# Why Should We Worry About Critical Mineral Import Reliance?

- Foreign governments restricting supply
  - Damages industry and manufacturing
  - Reduces competition
  - Harms defense capabilities
- Geo-political conflicts
  - Threatens supply chains
  - Rise in artisanal mining
- Environmental
  - Poorly-regulated overseas activities



*After U.S. Geological Survey (USGS) 2017 Mineral Commodity Summaries, U.S. Net Import Reliance; and Department of the Interior, February 15, 2017 Federal Register "Draft List of Critical Minerals"*

# How Can State Lands Benefit from Critical Minerals Designations?



- Increased federal investments in mapping, R&D, and technology transfers
- Increased private exploration activity to identify new critical and strategic mineral resources
- Increased metals and industrial minerals development, especially with critical minerals by products
- Enhanced cooperation from Federal agencies and streamlined permitting and consultations

# EPA Proposed Hardrock Financial Responsibility Requirements under Superfund

- CERCLA Section 108(b)
- Estimated to cost the industry between \$7.1 and \$39.4 billion
- Applied to most coal, metal, and industrial mineral mining operations in the U.S.
- Functionally separate from existing closure and reclamation responsibilities
- EPA rushed to complete rulemaking under Obama and reversed rulemaking under Trump



# U.S. Court of Appeals Upheld EPA Decision to Not Require Duplicative Financial Assurance under CERCLA 108(b)

- Court found EPA's (new) interpretation of risk was reasonable and nothing in the statute mandates the EPA to promulgate financial responsibility requirements for the hardrock mining industry.
- Court was unpersuaded by the petitioners' claims concerning the EPA's evaluation of the financial risks of the industry.
- Environmental organizations had misread the record and found no serious flaws in the agency's economic analysis.
- Court recognized that existing federal and state programs already impose adequate financial responsibility requirements on the mining industry



# Recent and Notable Changes Happening in the Mining Industry: Tailings Dams

- Industry learning from recent tailings dam failures in Canada and Brazil
- New standards emerging for construction, operation, and monitoring of dams
- Industry moving away from upstream construction methods
- Dry stack tailings gaining favor for stability and water conservation



# Recent and Notable Changes Happening in the Mining Industry: Reclamation

- Enhanced focus on reclamation and reclamation planning before mining
- Classification of rock types and acid generation potential (ANP/AGP) during mine planning
- Isolation of materials with high AGP
- Emergence of analog reclamation techniques



# Conclusions

- Domestic exploration and production expected to increase
  - Demand for safer, more sustainable and ethical mineral extraction
  - Focus on critical minerals to support national interests
- Regulatory headwinds waning (for now)
  - Section 108(b) recalled
  - WOTUS rules being backtracked
- Important changes to mine operation and closure
  - Sites mined for reclamation
  - Industry-wide tailings management improvements





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