Idaho Mining Association

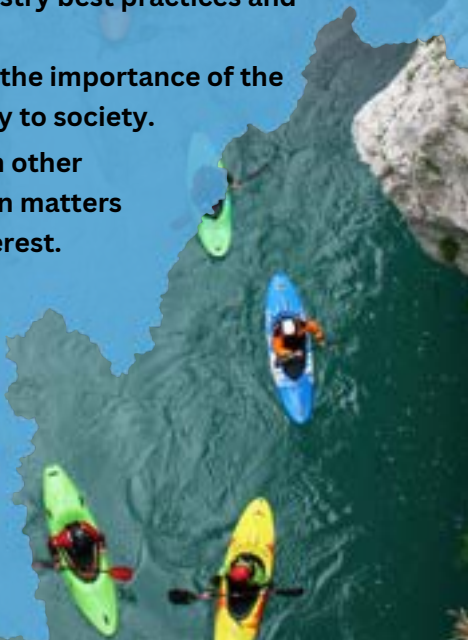
2024 Mining Facts

Idaho Mining Association

Idaho Mining Association

Our mission is to be recognized as the trusted voice of Idaho's mining industry by...

- **Advancing the responsible development of Idaho's diverse mineral resources.**
- **Encouraging economic growth by creating and maintaining high quality jobs.**
- **Engaging government to support the interests of our members.**
- **Promoting industry best practices and technology.**
- **Demonstrating the importance of the mineral industry to society.**
- **Interacting with other organizations on matters of common interest.**



IT'S IN OUR NATURE.

Before It Was Yours, It Was Mined

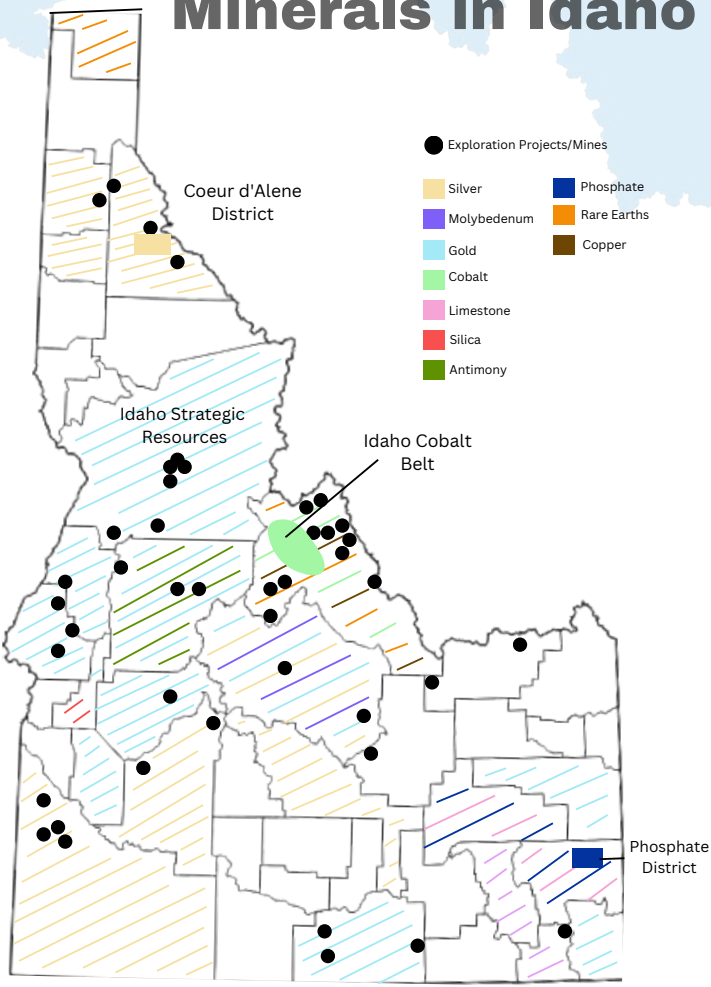
If you've ever flown in a plane, driven a car, worked on a phone or computer, or used modern medicine, then mining is important to you. Almost everything we use in our day to day lives comes from minerals.

If it can't be grown, it must be mined.

Mining is an essential industry in our growing world. It serves as the foundation for nearly everything we depend on, from the development of modern technology to the sustainability of key infrastructure.

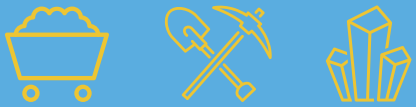
Sources: Minerals Make Life, 2014.

Critical & Strategic Minerals in Idaho



U.S. Critical Mineral List

The United States Geological Survey Critical Minerals List consists of 50 minerals, each of which plays a vital role in our nation's security, economy, infrastructure, and renewable energy development.

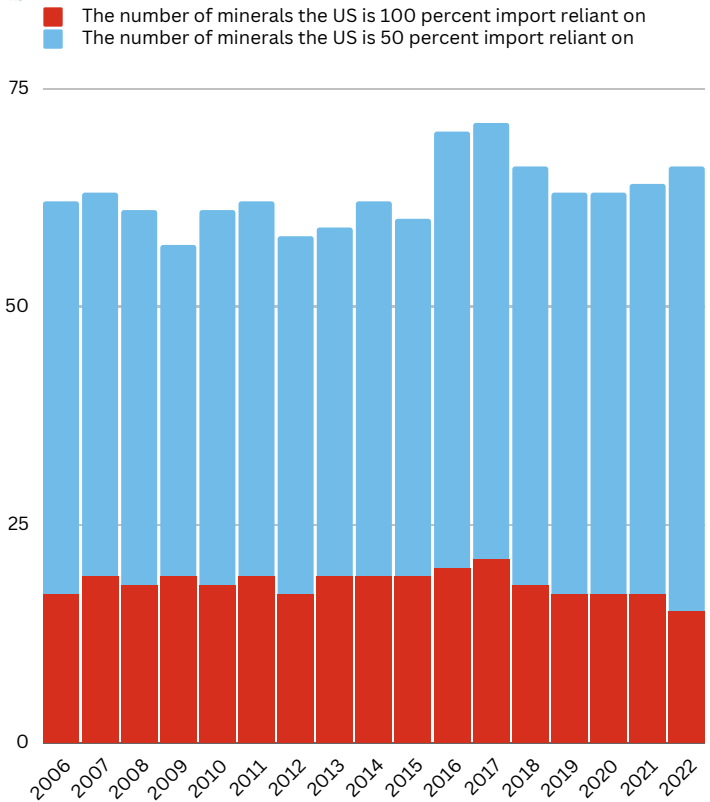


Minerals listed below in blue have known deposits in Idaho.

Aluminum	Fluorspar	Manganese	Tellurium
Antimony	Gadolinium	Neodymium	Terbium
Arsenic	Gallium	Nickel	Thulium
Barite	Germanium	Niobium	Tin
Beryllium	Graphite	Palladium	Titanium
Bismuth	Hafnium	Platinum	Tungsten
Cerium	Holmium	Praseodymium	Vanadium
Cesium	Indium	Rhodium	Ytterbium
Chromium	Iridium	Rubidium	Yttrium
Cobalt	Lanthanum	Ruthenium	Zinc
Dysprosium	Lithium	Samarium	Zirconium
Erbium	Lutetium	Scandium	
Europium	Magnesium	Tantalum	

Sources: United States Geological Survey Critical Minerals list, 2022; Idaho Strategic Resources

U.S. Mineral Import Reliance



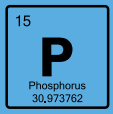
Sources: USGS Mineral Commodity Summaries 2006-2022; *National Mining Association.* (2023). U.S. Reaches Highest Recorded Mineral Import Reliance.

Strategic Minerals in the Gem State

Idaho is home to at least four of our nation's strategic minerals.

Molybdenum

The U.S. is among the largest producers of Molybdenum in the world, including China, Chile, and Peru. Molybdenum makes a strong contribution to global power generation and infrastructure.



Phosphate

The U.S., China, and Morocco are the leading producers of phosphate. Phosphate is most commonly used to make fertilizer and animal feed supplements.

Cobalt

The U.S. relies on Norway, Canada, Japan, and Finland for 76% of our cobalt production, but Idaho has the first and only cobalt mine in the nation. Cobalt is most commonly used in rechargeable battery electrodes for commercial, industrial, and military applications.

Antimony

Russia, China, and Tajikistan control 90% of the world's antimony supply chain, but Idaho has identified the first domestic source. Antimony is used to make everything from solar panels and renewable batteries to ammunition and defense technologies.

Sources: United States Geological Survey Critical Minerals list, 2022; US Department of Interior and US Geological Survey, Mineral Commodity Summaries 2022; The White House, Securing a Made in America Supply Chain for Critical Minerals.

Mining for National Security

Currently, the United States relies on imports in order to obtain 46 out of the 50 identified critical minerals. Of that, our nation is 100% dependent on imports for 19 of those critical minerals because we do not have any domestic supply.

Due to our reliance on foreign entities, the United States' supply chain is vulnerable to geopolitical consequences. Our national security is heavily dependent on these minerals to advance our technology, equip our military, and keep Americans safe.

Sources: National Mining Association Enhancing National Security

Al	P				Mi	Ne	Ra	Ls		
Ti	Fe	Co	Ni	Cu	M	A	K	E		
Zn	Y	Mo	Ag	Ba	Se	Cu	Ri	Ty	La	Ce

Jet Engines

Rhenium and **Nickel** are used in high-performance jet engines.

Ammunitions

Antimony is used to make munitions for every branch of our armed services.

Military Aircraft

Aluminum provides unique strength-to-weight ratio capabilities and **Copper** is essential in electrical wiring systems.

Armored Vehicles

Manganese and **Molybdenum** are essential to the production of high strength steel for armored vehicles.

The U.S. Department of Defense requires

750,000 Tons

of minerals annually.

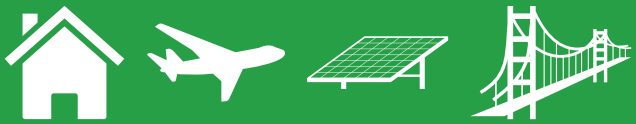
Minerals Used to Build Infrastructure

P Phosphorous	Mn Manganese	Al Aluminum	Mg Magnesium
Li Lithium	Na Sodium	Zn Zinc	Fe Iron
Si Silicon	Co Cobalt	Cu Copper	Pb Lead

It's In Our Nature!

Mining for Idaho's Infrastructure

Idaho is home to mines and mine projects that supply the nation with the minerals needed to construct and maintain our infrastructure.



Lead

Lead is widely used in bridges and metal structures because it can withstand varying temperatures and weather conditions.

Nickel

Nickel is most commonly used in the aerospace industry. It is also used in electronics, household appliances, and industrial machinery.

Copper

A majority of copper is used in electrical, plumbing, and roofing needs. Copper is also vital for a low carbon future.

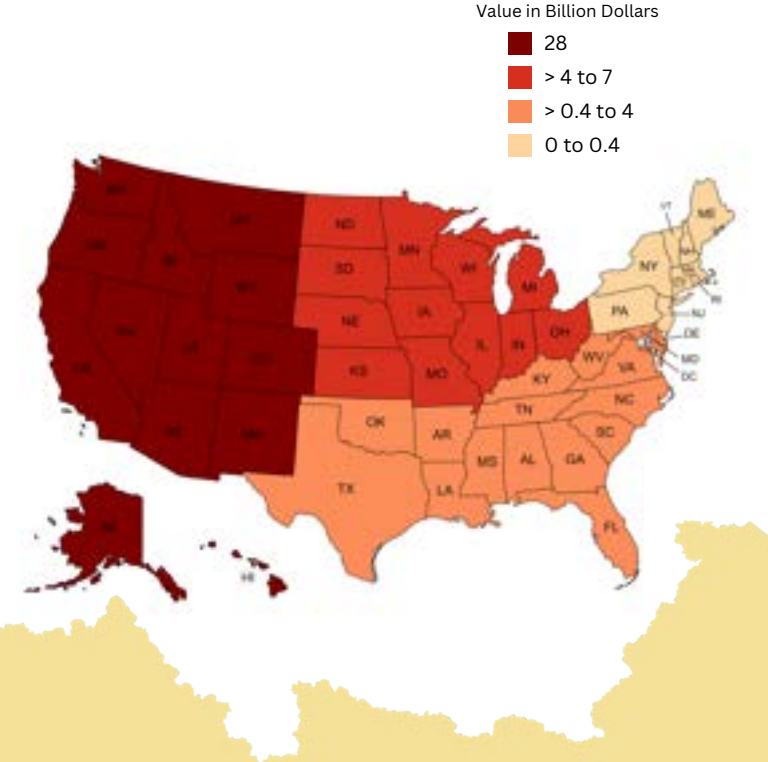
Zinc

Zinc is used in many architectural applications for rainwater systems and roofing.

Sources: Minerals Make Life: Minerals are the Core of American Infrastructure 2016; Melgaard Construction; US Department of Transportation Federal Highway Administration; National Mining Association.

Value of Metals & Metallic Minerals

Mined in 2021



Sources: Mineral Commodity Summaries 2022.

National Economic Impact of Mining

$815 Billion

Domestically processed mineral materials

$98.2 Billion

Domestically mined mineral raw materials

$25.46 Trillion Gross Domestic Product

$4.9 Billion

Total Net Exports

$3.64 Trillion

Value added to Gross Domestic Product by major industries that consume processed mineral materials

Sources: US Geological Survey and US Department of Interior, Mineral Commodity Summaries, 2023.

How Mining Contributes to Idaho's Economy

Mining played an important role in Idaho before it was even a state. In 1891, the Great Seal of Idaho was adopted by the Idaho Legislature, commemorating an Idaho miner.

Mining plays a valuable role, especially in our rural communities. Our industry provides job opportunities for women and men of all skills, contributing greatly to our local and state economies.

Mining jobs provide high-paying, quality opportunities that allow Idahoans to live, work, and raise their families in their hometowns.

Economic Impact of Mining in Idaho

$789.6 Million

Total payroll compensation

$136.4 Million

Increase local and state tax coffers

$43.1 Million

Local property taxes

$1.58 Billion

Gross State Product

The average compensation package of a mining related job is 71% higher than the Idaho average, at approximately

$108,500

Sources: The 2023 Economic Contributions of Mining and Mine Processing on Idaho's Economy

Idaho Mining Provides Jobs

3,299
Mining Metallic

1,911
Petroleum, Exploration, and Manufacturing

11,484
Total Jobs

1,162
Sand and Gravel/Investment Cluster Industries

5,112
Non-Metallic Mining and Processing

Sources: Idaho Mining Association. (2023). The 2023 Economic Contributions of Mining and Mine Processing in Idaho's Economy.

Careers in Mining

Directional Driller

Average Salary - $66,927

Underground Mining

Average Salary - $61,981

Mine Electrician

Average Salary - $65,914

Mine Engineer

Average Salary - $122,318

Metallurgist

Average Salary - $114,319

Equipment Engineer

Average Salary - $104,796

Sources: Sources: Economic Research Institute 2024.

Mining Safety

ACT:

In 1977, Congress passed the Federal Mine Safety and Health Act which requires the *Mine Safety and Health Administration* to conduct a yearly inspection of all mines to ensure the safety and health of mine employees.

The *Mine Safety and Health Administration (MSHA)* works to prevent mining injuries, illnesses, and fatalities, and promote safe and healthy workplaces for all U.S. miners. MSHA is one of the only industry-specific worker safety regulatory agencies. Extensive training is put in place for mine employees to ensure their safety is of the utmost importance. The number of industry accidents continue to decrease.

Sources: US Department of Labor ; The National Mining Association

Safety Equipment

Miners use **hard hats** when working in areas that have potential for head injury due to falling objects. Some hard hats are also designed to reduce electrical shock impact when working near exposed electrical conductors.

Drones are used for a variety of reasons like data collection, safety enhancement, and productivity improvements. Drones are used to survey hard to reach terrain in order to collect data and to help determine the best safety precautions to take.

Miners use **safety glasses** to protect their eyes from hazardous materials like dust, chemicals, heat, and electrical hazards. Today, some protective eye glasses are made with prescriptions for anyone who may need assistance.

Vehicle safety flags are used to prevent accidents involving more than one vehicle on the mine site. Most vehicles have a flag outside of the cab to notify oncoming vehicles and equipment.

Sources: The University of Iowa Health and Safety. PPE Hard Hat Information; Mining Technology. (2021). Drones in Mining: Drone Applications in Mining; Mining Technology. (2021). Advanced Prescription and Safety Eye Protection for the Mining Industry; Cashman Equipment. (2021). Common Types of Mining Equipment Used in the Mining Industry.

Land Restoration
Efforts in Idaho

WHAT IS RECLAMATION?

Reclamation is the process of taking land that has been modified by mining operations and returning it to its original state.

WHAT IS RESTORATION?

Restoration is the rehabilitation of a region's natural ecosystem and biodiversity in mining-impacted areas. It goes beyond the physical aspects of reclamation and focuses on regenerating the natural habitat and wildlife species.

Restoration projects can include...

- Reintroducing native vegetation
- Maintaining wildlife habitats
- Proper water management
- Reinstating natural drainage patterns
- Recovering rare or threatened species

Sources: Ecology Center. (2023). Remediation, Reclamation, Rehabilitation, Restoration, or Reconstruction.

Mining in a Green Economy

Natural resources are essential to our daily lives, which is why modern mining practices are engineered with sustainability and environmental responsibility at the forefront.

Modern mining technologies utilize sustainable energy resources. Use of electric vehicles, water recirculation, and carbon emission reductions are a few examples of new standard practices across the industry.

These sustainable mining alternatives are helping make land reclamation and mine cleanup better for our local communities and future generations.

Sources: National Mining Association; WSP. (2020). Mining a More Sustainable Future.

Leaving It Better Than We Found It

Historical mining operations were conducted in a much different way than modern mining is now. With our advancements in technology and our understanding of long-term effects, our industry strives to continuously improve how we extract the critical, natural resources our world needs to function.

In 2019, the Idaho Mining Association facilitated the passage of "The Mined Land Reclamation Act," updating our reclamation and financial assurance statute for the first time in over 50 years.

Today, within the Idaho Mining Association, we are committed to upholding best mining practices. Industry in Idaho prioritizes land reclamation, wildlife species protection, and the reduction of environmental risks.

Sources: Idaho Department of Lands; Abandoned Mine Reclamation Act 1994

Sources:

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