



# Copper in Utah

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*As one of the top copper-producing states, and home to one of only two copper smelters in the U.S., Utah is an essential domestic provider of this everyday metal.*

## COPPER IN EVERY DAY LIFE

Copper is a metal used by almost everyone on the planet. It is both ductile (can be stretched into wires) and malleable (can be hammered or pressed into sheets), and was one of the first metals ever used. The Bronze Age was defined by mixing copper and tin to create the alloy known as bronze. Brass is another common alloy made with copper and zinc. In modern times, copper is the third most commonly used metal behind aluminum and iron.

Copper is used in modern life in a variety of applications, such as electrical wires, plumbing, and construction materials. Copper is particularly useful in electrical applications because it is an excellent conductor of electricity and heat.

29  
**Cu**  
Copper  
63.546



## What is copper used for?

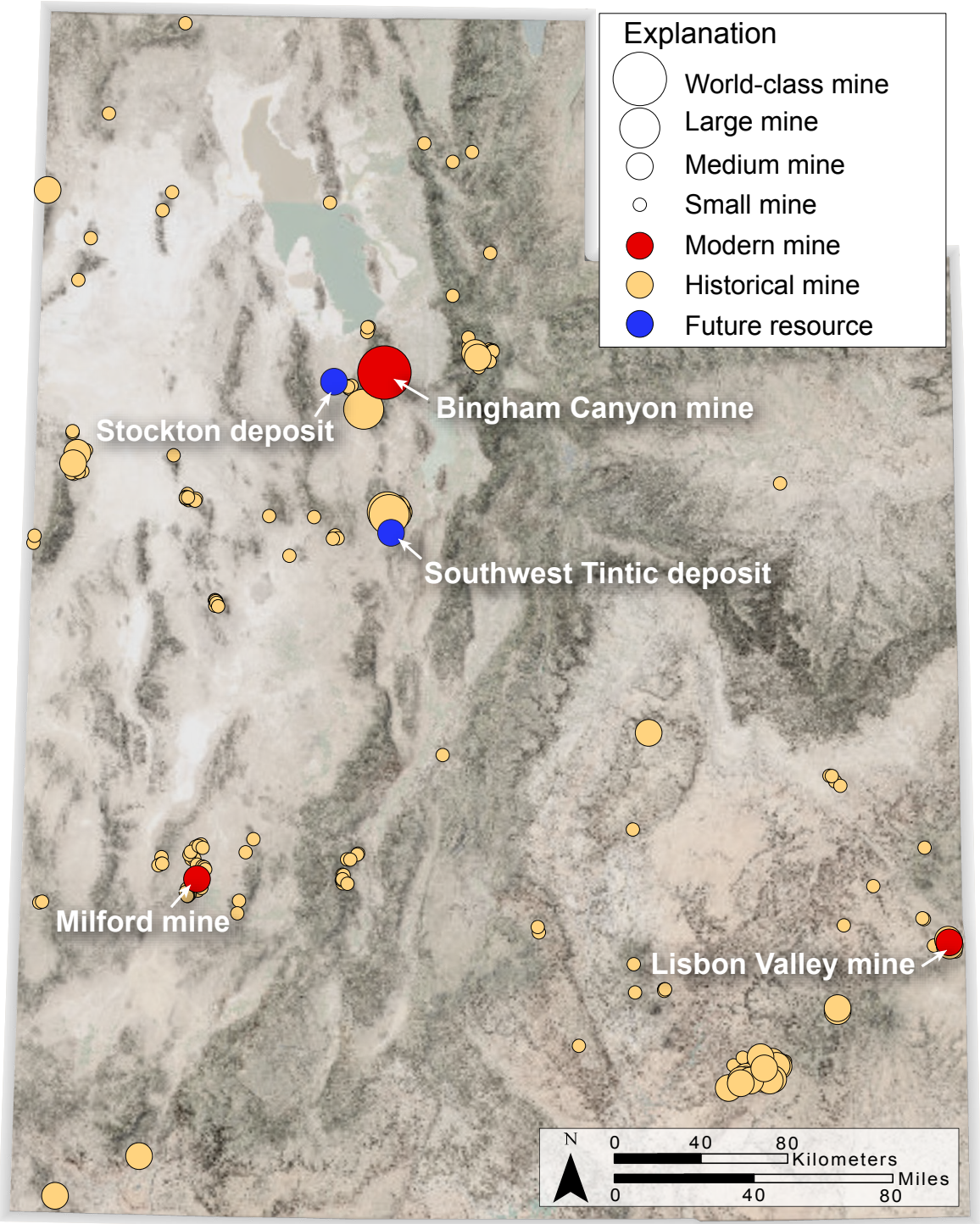


## COPPER MINING IN UTAH

In Utah, over 45 billion pounds of copper have been produced since mining began in the late 1800s, worth over \$205 billion at modern metal prices—about as much as the annual gross domestic product (GDP) of a small country like New Zealand. Utah is the second largest copper-producing state in the U.S., behind Arizona, and copper has generated more value for Utah than any other metal. The importance of copper to Utah's economy is why it is Utah's state mineral.



More than 285 historical mines in Utah have produced copper as a major commodity, and there are several known areas with copper resources that are not currently economic but might be in the future (e.g., the Stockton deposit in Tooele County and the Southwest Tintic deposit in Juab County). Modern copper mining is active at Bingham Canyon in Salt Lake County, Lisbon Valley in San Juan County, and Milford in Beaver County. These mines use different methods to extract the copper from their rocks: Bingham Canyon uses a smelting process, whereas Lisbon Valley and Milford use a solution-extraction method. Both methods result in the same end product: sheets of 99.99% pure copper that can be sold to manufacturers and made into products for everyday use.



The Bingham Canyon copper mine is the second-largest copper mine in the U.S. and one of the largest in the world. It is also in one of the oldest mining areas in Utah that has been in continuous operation for over a century and a half, producing not only copper, but also gold, silver, molybdenum, lead, and zinc, among other metals. As a result, Bingham is the most productive mining district in the United States.

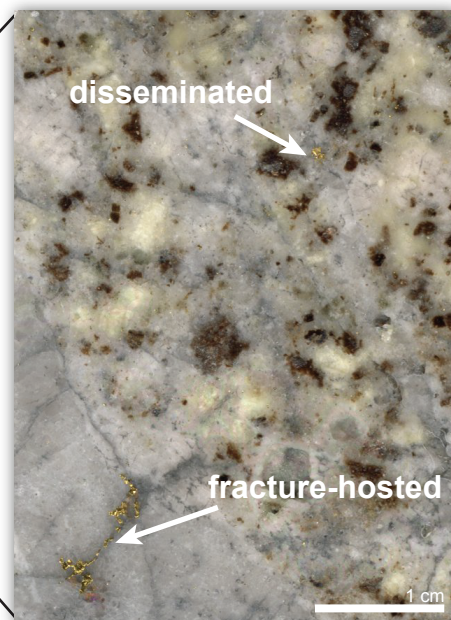
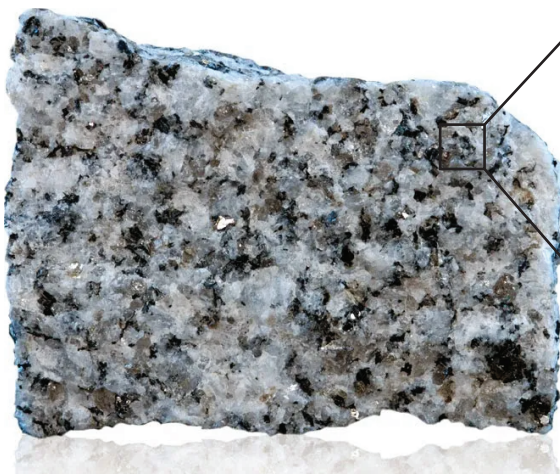




*The Bingham Canyon open-pit mine, one of the largest copper mines in the world. Photo credit: Rick Redfern*

Modern open-pit copper mining was innovated at Bingham Canyon in 1906, allowing rocks with low copper content to be extracted as ore, a method which is now used as a standard across the globe.

## What does copper look like in rocks?



*Copper at Bingham Canyon is contained in minerals such as chalcopyrite. These minerals can be disseminated, meaning small blobs spread throughout the rock, or fracture-hosted, meaning they occur along cracks in the rock.*

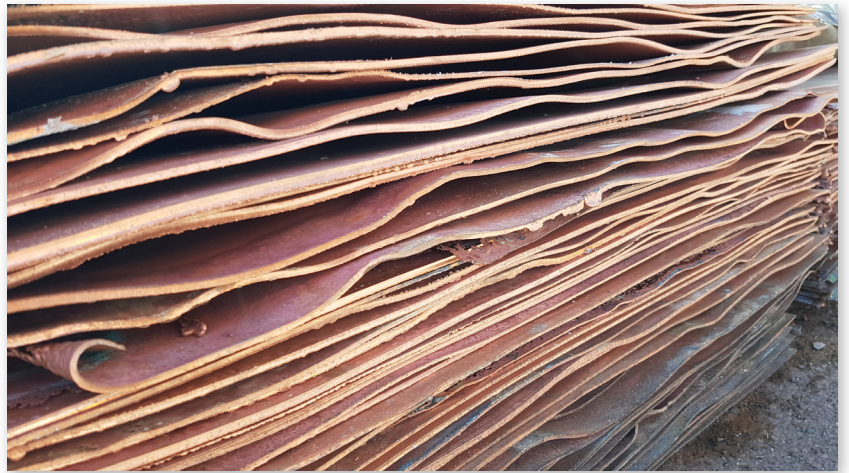
## THE FUTURE OF COPPER

Copper's importance to modern economies, infrastructure, and national security has led to increased awareness about the U.S.'s reliance on imports for its copper supply. Copper is the second-most utilized material in the Department of Defense, and is essential in emerging technologies related to clean energy and advanced electronics.



The U.S. produced almost all of its own copper domestically in the early 1990s, but now imports close to 50% of its copper supply. The U.S. does not have much of the infrastructure needed to process copper-bearing rocks into usable copper; the U.S. is not even in the top five nations for copper processing capacity despite being one of the largest global consumers. There are only two primary copper smelters in the U.S., one of which is in Utah (the Kennecott smelter on the northern end of the Oquirrh Mountains).

Copper demand is forecasted to increase significantly in the next decades due to the global push towards electrification (e.g., electric vehicles, expanded electricity networks) and other clean energy technologies. Copper is one of the few metals that can be easily recycled while still maintaining its physical properties; estimates indicate that over 30% of global copper in 2022 was sourced from recycling. However, to meet the projected increase in demand, more copper mining is likely needed. Utah will continue to be an essential part of the domestic supply chain for copper, all the way from mining to refining.



*Copper sheets, called copper cathodes, are the finished products produced at Bingham Canyon and Lisbon Valley copper mines.*

## LEARN MORE ABOUT COPPER, MINING, AND CRITICAL MINERALS IN UTAH

Mineral occurrences and critical mineral resources can be viewed on the Utah Mineral Resources webmap at [geology.utah.gov/apps/blm\\_mineral/](https://geology.utah.gov/apps/blm_mineral/). The UGS is available to provide more information on Utah's copper, critical mineral, and mining industries ([geology.utah.gov](https://geology.utah.gov), 801-537-3300).

### Other Resources:

- Copper in the U.S.: <https://www.usgs.gov/centers/national-minerals-information-center/copper-statistics-and-information>
- National importance of copper: <https://www.whitehouse.gov/fact-sheets/2025/02/fact-sheet-president-donald-j-trump-addresses-the-threat-to-national-security-from-imports-of-copper/>
- Critical minerals in Utah: <https://doi.org/10.34191/C-135>
- Mining in Utah: <https://doi.org/10.34191/C-138>
- Bingham Canyon mining history: <https://geology.utah.gov/map-pub/survey-notes/open-pit-copper-mining/>
- Copper processing: <https://superfund.arizona.edu/resources/learning-modules-english/copper-mining-and-processing/processing-copper-ores>

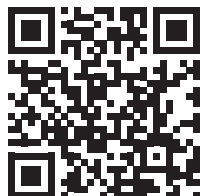
Copper in the U.S.



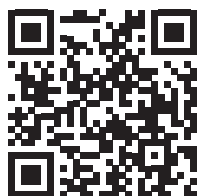
National importance  
of copper



Critical minerals  
in Utah



Mining in Utah



Bingham Canyon  
mining history



Copper processing

