

Metallic Mineral Exploration and State Mineral Leasing in Minnesota

Minnesota Department of Natural Resources, Division of Lands and
Minerals
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Presentation Goals

1. Define “metallic minerals in Minnesota”.
2. Show where active state metallic mineral leases are located in Minnesota.

Metallic Minerals

- Minnesota State Law distinguishes between **ferrous** metallic minerals and **non-ferrous** metallic minerals.
 - Ferrous metallic minerals = iron ores and taconite
 - Nonferrous metallic minerals = ores of copper, nickel, and other metals, excluding iron ore and taconite. It has, over time, become interchangeable with (and informally shortened to) “metallic minerals.”

Nonferrous Metallic Minerals

“...a metallic mineral from which iron is not the predominant metal extracted.”

Mn Rules 6132.0100, Subpart 22

Examples

Base metals

- Copper
- Nickel
- Zinc
- Cobalt

Precious metals

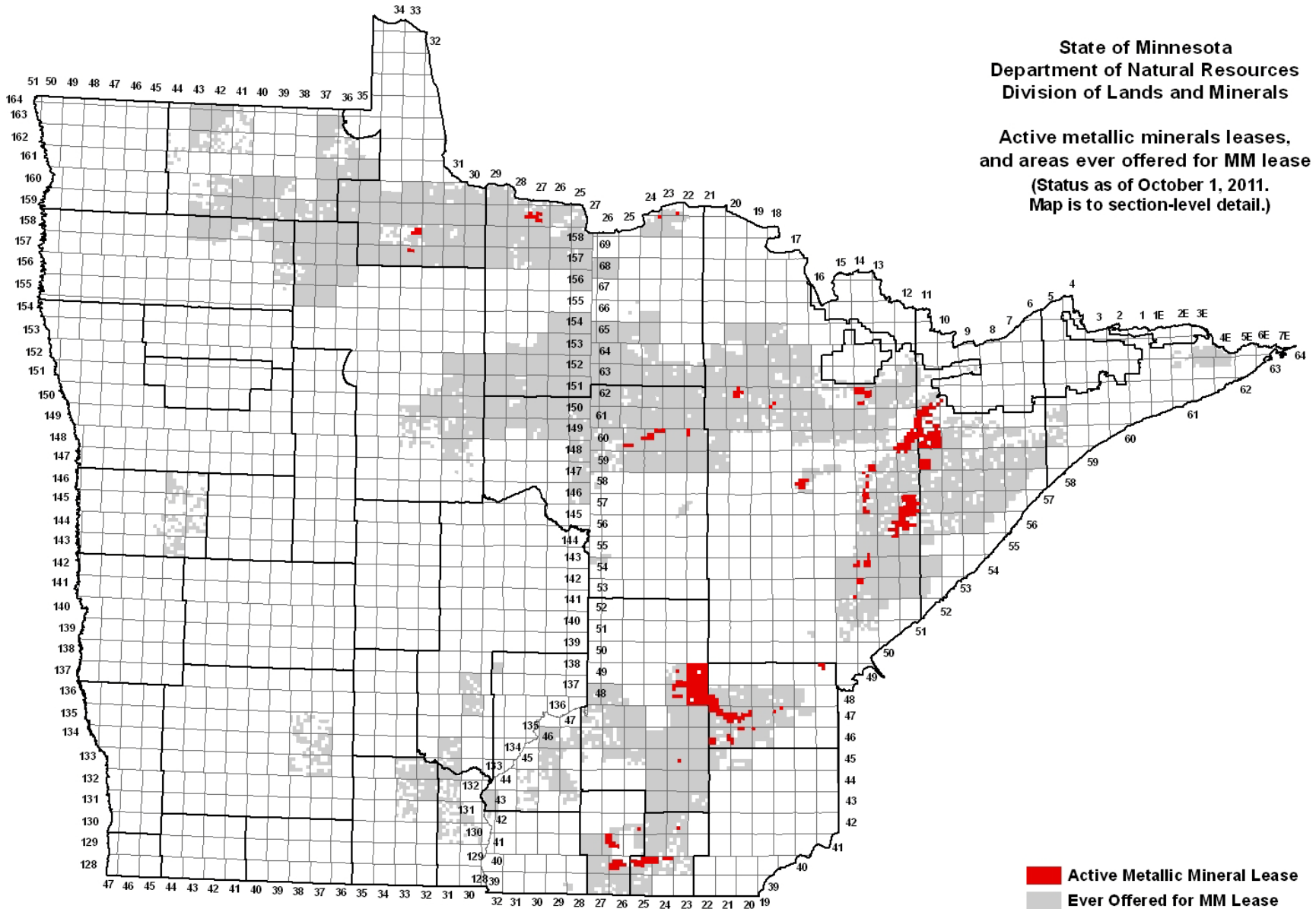
- Gold
- Silver
- Platinum
- Palladium

Metals Commonly Found within One Ore Deposit in Minnesota

- 1) Copper , Nickel, Platinum, Palladium, Gold and Cobalt [or some combination of this group]
- 2) Titanium and Vanadium [and may have by-product iron]
- 3) Gold and Silver
- 4) Gold , Copper and Zinc

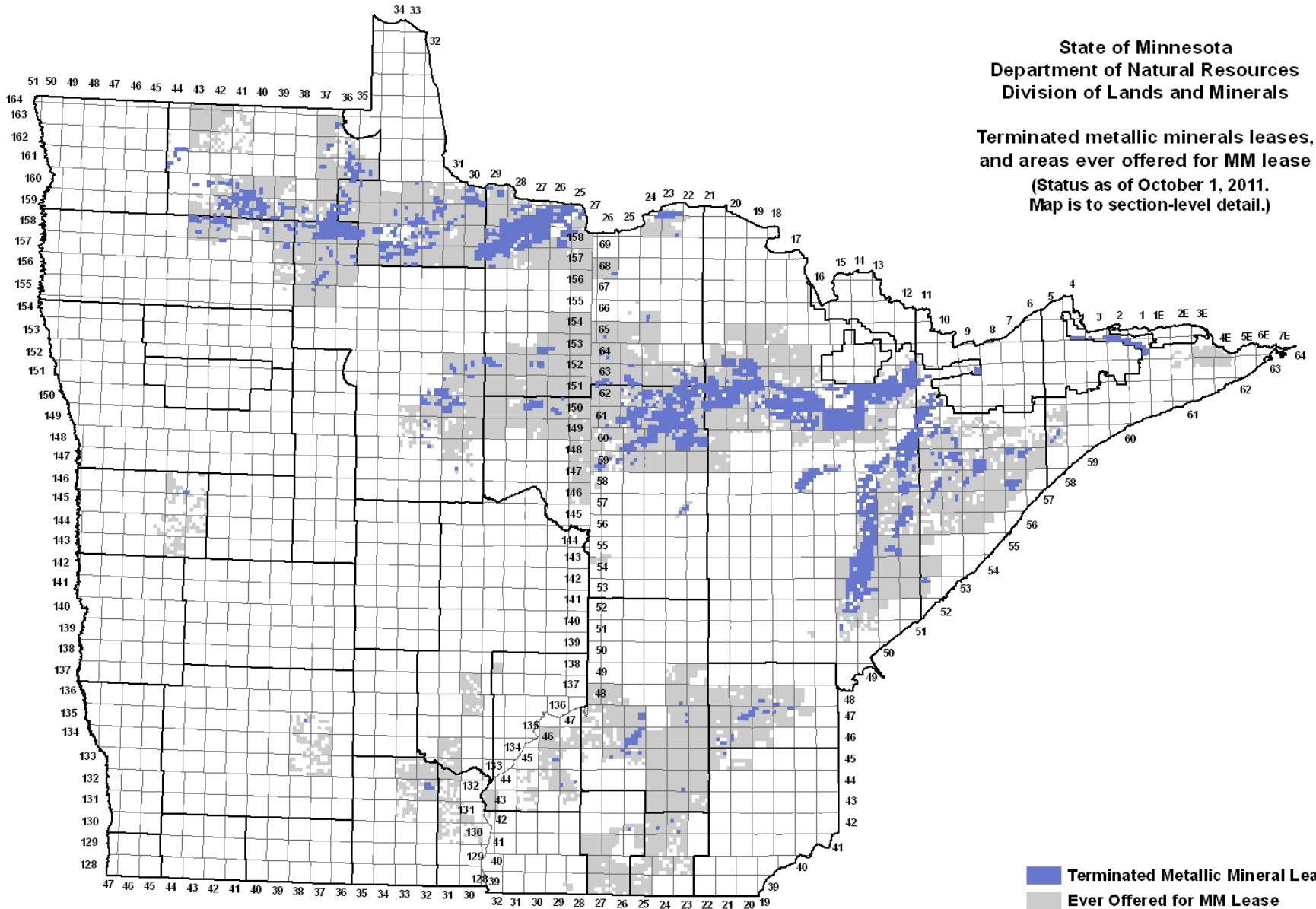
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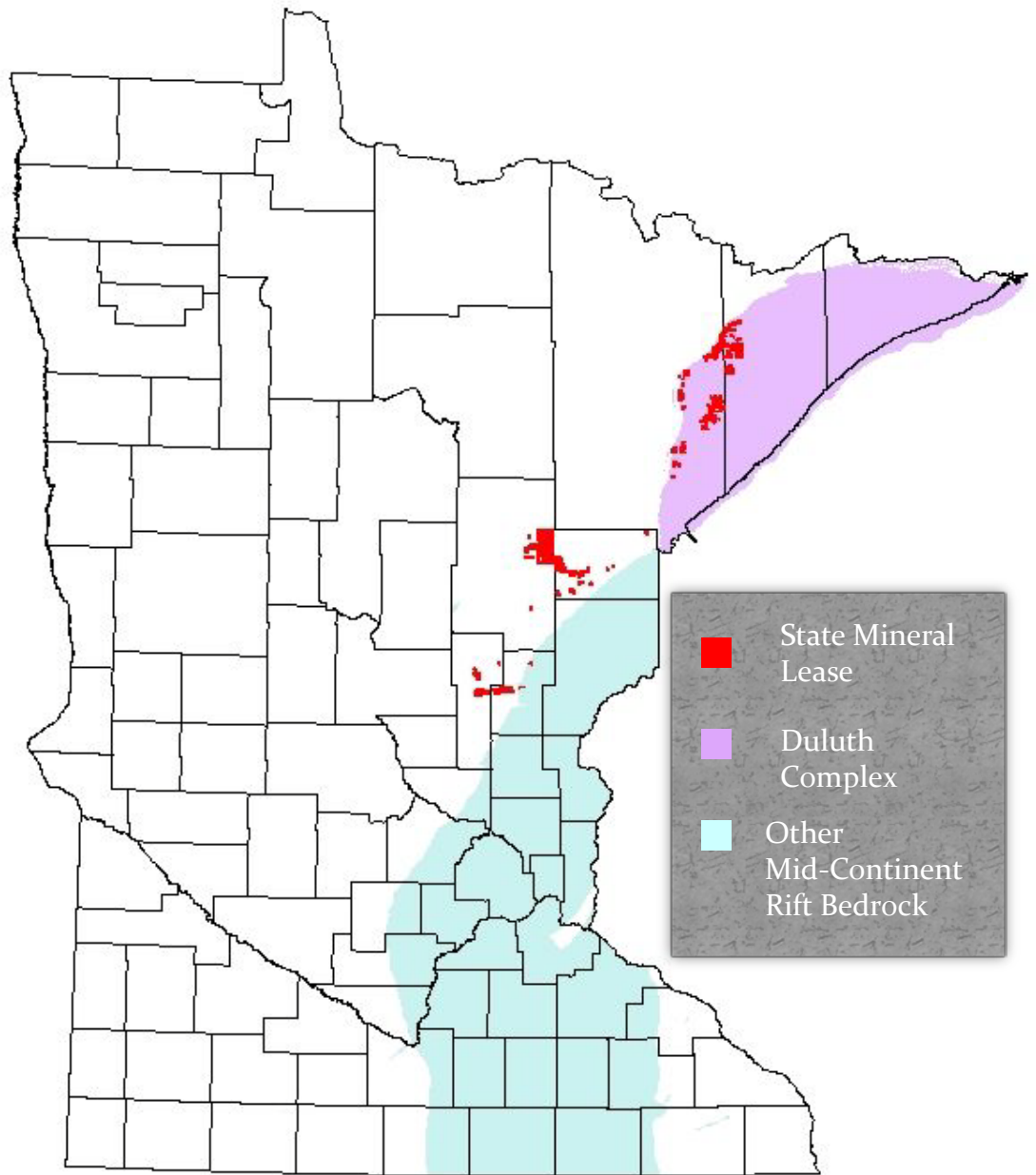
Active metallic minerals leases,
and areas ever offered for MM lease
(Status as of October 1, 2011.
Map is to section-level detail.)



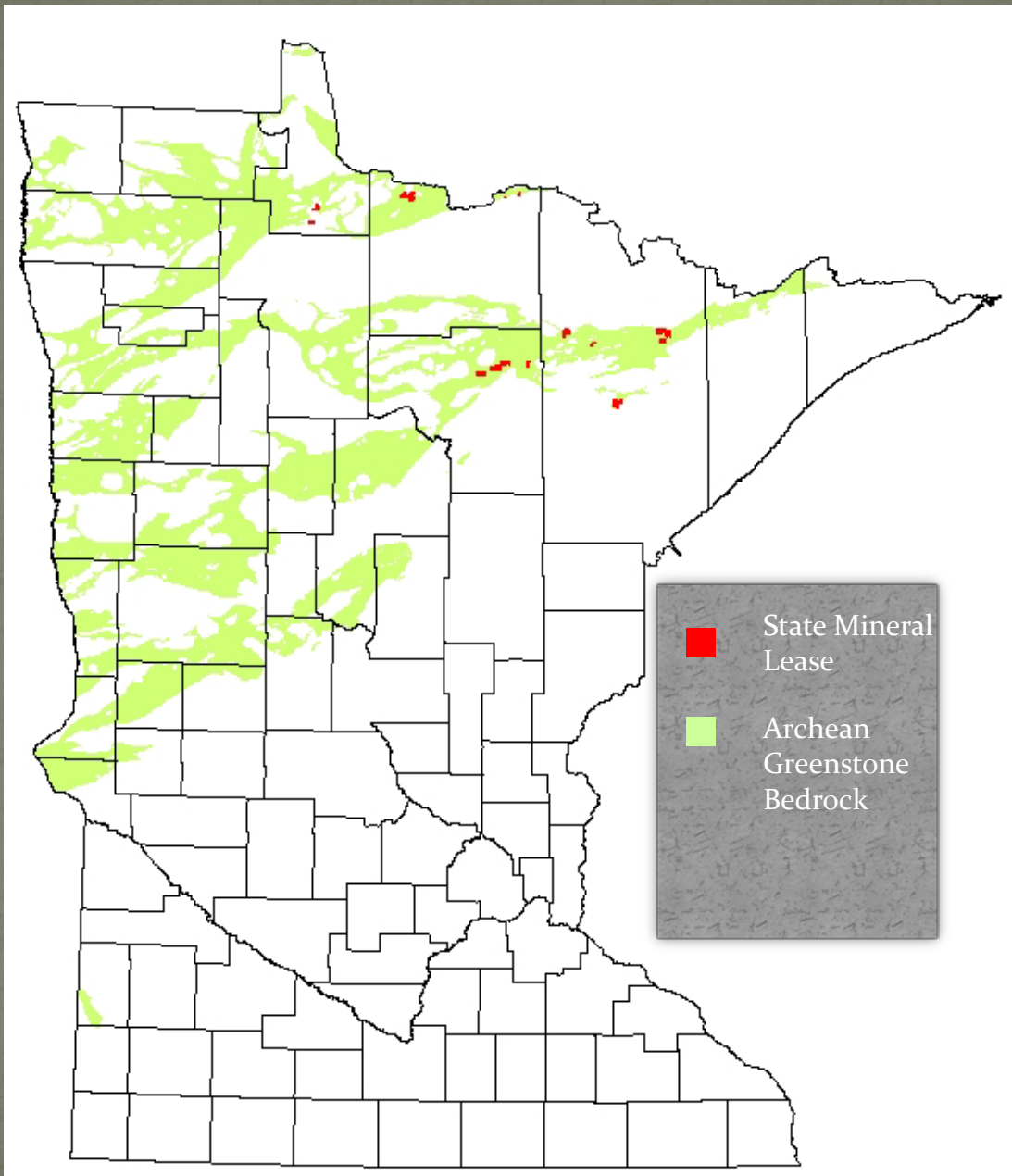
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Terminated metallic minerals leases,
and areas ever offered for MM lease
(Status as of October 1, 2011.
Map is to section-level detail.)





Exploration in the Mid-Continent Rift Geologic Feature



Exploration in the Archean Greenstone Geologic Feature