Mining in the Great Lakes-St. Lawrence Region

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1) Why Mine?

2) Role of Mining in the Great Lakes-St. Lawrence Region
Why Mine?

Empire-Tilden Iron Mine
Why Mine?
Why Mine?

“If it can’t be grown, it has to be mined.”
Why Mine?
Why Mine?
Why Mine?
Every year—37,687 pounds of new minerals must be provided for every person in the United States to make the things we use every day:

- **8,343 lbs. Stone** used to make roads, buildings, bridges, landscaping, and for numerous chemical and construction uses.
- **5,937 lbs. Sand & Gravel** used to make concrete, asphalt, roads, blocks & bricks.
- **530 lbs. Cement** used to make roads, sidewalks, bridges, buildings, schools and houses.
- **187 lbs. Iron Ore** used to make steel—buildings; cars, trucks, planes & trains; other construction; containers.
- **409 lbs. Salt** used in various chemicals; highway deicing; food & agriculture.
- **195 lbs. Phosphate Rock** used to make fertilizers to grow food; and as animal feed supplements.
- **156 lbs. Clays** used to make floor & wall tile; dinnerware; kitty litter; bricks & cement; paper.
- **52 lbs. Aluminum (Bauxite)** used to make buildings, beverage containers, autos, and airplanes.
- **12 lbs. Copper** used in buildings; electrical & electronic parts; plumbing; transportation.
- **10 lbs. Lead** 75% used for transportation—batteries, electrical, communications and TV screens.
- **7 lbs. Zinc** used to make metals rust resistant, various metals & alloys, paint, rubber, skin creams, health care and nutrition.
- **44 lbs. Soda Ash** used to make all kinds of glass; in powdered detergents; medicines; as a food additive; photography; water treatment.
- **3 lbs. Manganese** used to make almost all steels for construction, machinery and transportation.
- **403 lbs. Other Nonmetals** used glass, chemicals, soaps, paper, computers, cell phones, etc.
- **19 lbs. Other Metals** uses similar to nonmetals; but also electronics, TV & video equipment, recreation equipment, etc.
Why Mine? – Why don’t we just recycle?

*Recycling percentage is too low.*
Why Mine? – Why don’t we just recycle?

Recycling percentage is too low.

Cannot Recycle Oil, Gas, Coal, Phosphate, Potash, Soda Ash, Salt.
Why Mine? – Why don’t we just recycle?

World Demand is Increasing.

Copper - World Production
Why Mine? – Developed countries are decreasing demand.

Copper Consumption

USA
Japan
S Korea

Tonnes

1995 1997 1999 2001 2003 2005 2007 2009 2011
Why Mine? – Developing countries are increasing demand.

Copper Consumption

- China
- USA
- Japan
- S Korea
- India

Tonnes

1995 1997 1999 2001 2003 2005 2007 2009 2011
Why Mine? – Where to mine? AND – must be mined where they are located.

Martha Mine, Waihi, New Zealand
Coexistence of mine and town.
## Role of Mining and Related Activity in GLSL Region

### Contribution to GDP - $Billions

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Role of Mining and Related Activity in GLSL Region

Iron/Steel, Copper-Zinc-Nickel, Gold
Role of Mining and Related Activity in GLSL Region

Salt, Limestone/Dolomite, Gypsum, Cement
Role of Mining – Transport of Products

Tonnage of Great Lakes Shipments

Iron Ore

Limestone

Coal

Salt, Cement, Grain
The Walter J. McCarthy, Jr. hauls low-sulfur coal that is mined in Wyoming from a terminal in Superior, WI to a power plant in St. Clair, MI.
Role of Mining and Related Activity in GLSL Region

Sand & Gravel and Crushed Stone Total Value - $6.6 Billion/Year
Role of Mining – NIMBY

Crandon Deposit (WI)

vs

Eagle Deposit (MI)