



# POLYMET

MINING

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### PolyMet Project

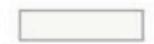
Hoyt Lakes to Duluth | Approx. 65 miles



**Boundary Waters Canoe Area Wilderness**



**Upper Mississippi Watershed**



**Souris-Red-Rainy Watershed**



**Lake Superior Watershed**



**Mining district for past 100+ years**



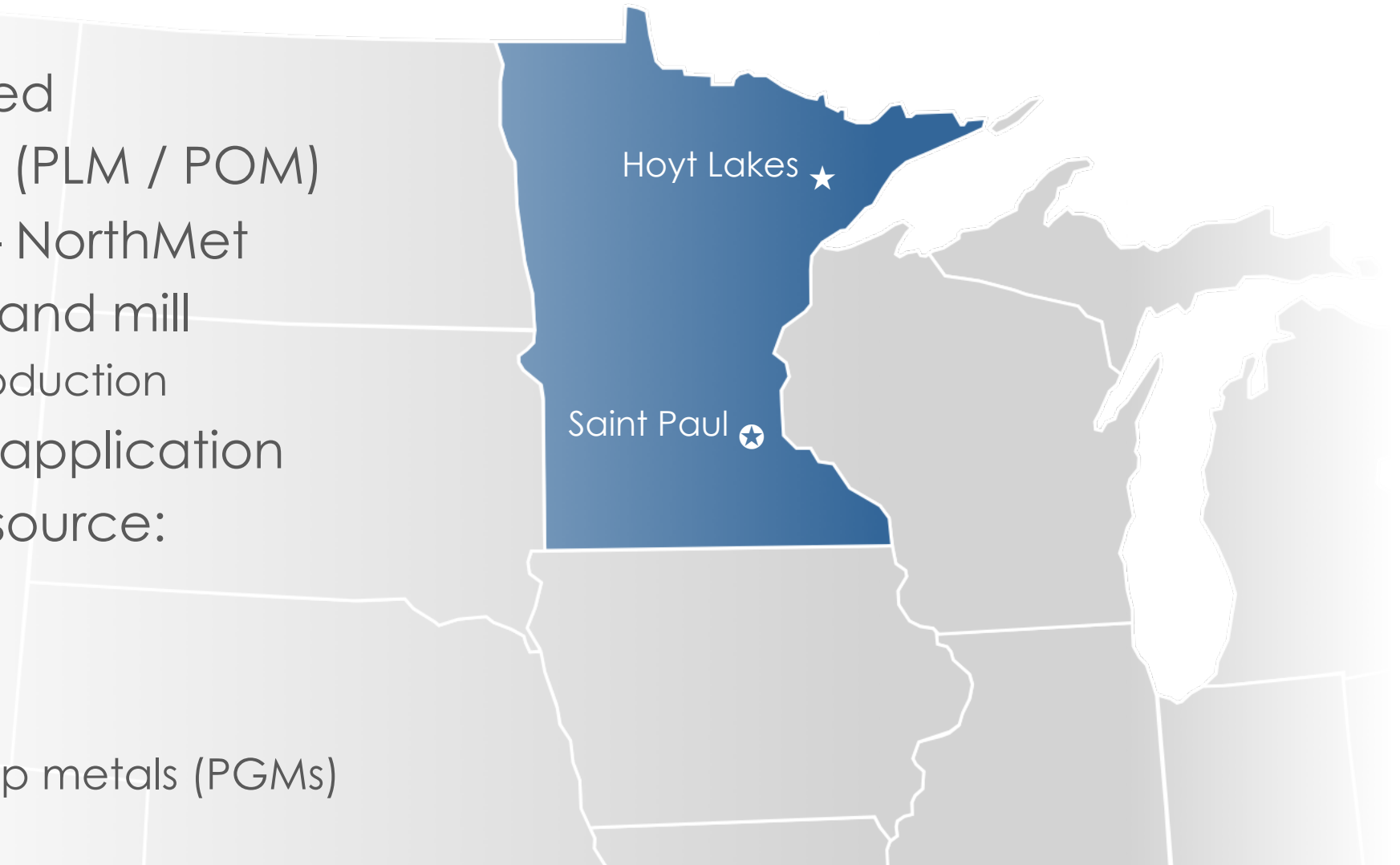
**Active mine**



**Duluth Complex**

# About PolyMet Mining

- Minnesota based
- Publicly traded (PLM / POM)
- Single project – NorthMet
- Open pit mine and mill
  - 32,000 tpd production
- 20-year permit application
- Polymetallic resource:
  - copper
  - nickel
  - cobalt
  - platinum group metals (PGMs)



# PolyMet Mining History

**1940s**

- Duluth Complex discovered

**1969**

- NorthMet discovery (US Steel)

**1989**

- Acquires US Steel mining lease

**2005**

- Acquires idle Erie Plant

# PolyMet's mission

To permit, safely and responsibly build and operate a mining enterprise that produces essential metals, sustains and improves our way of life, protects our natural surroundings and returns value to those who have a stake in us.

# Life without mining...

Metals are essential for our way of life

Metals have to be mined - recycling is not enough

**The question isn't "if" we mine – BUT – "Where and how" do we mine?**



# Essential metals for modern society

## Copper



*Electric Cars*

## Nickel



*Medical Instruments*

## Cobalt



*Joint Replacements*

## Platinum



*Catalytic Converters*

## Palladium



*Cancer Treatment*

## Gold



*Computer Components*

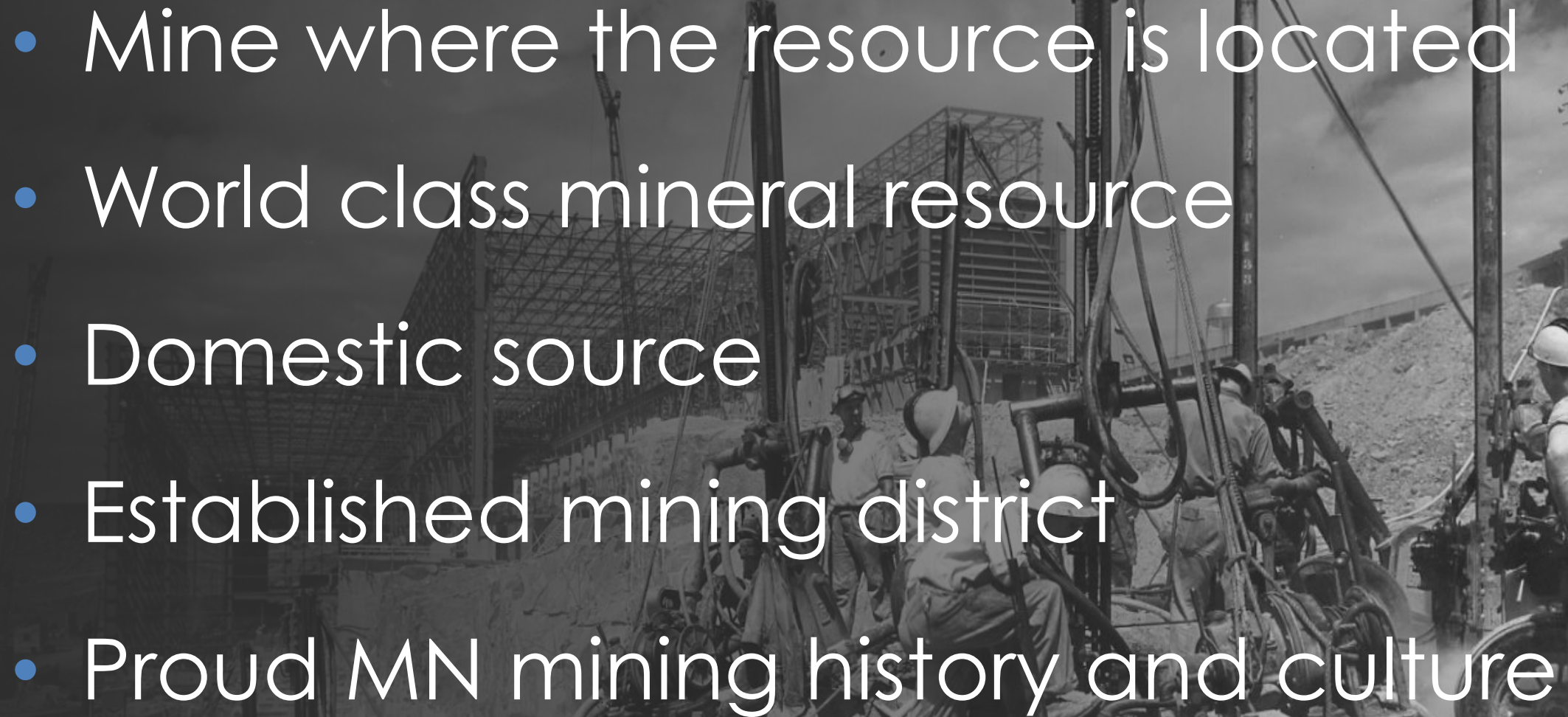
# Essential metals for green energy

- Up to **10,000 lbs.** Cu in a single wind turbine
- Avg. **2,300 lbs.** Cu each in electric buses, trolleys, subway cars
- **64 lbs.** Cu in a Toyota Prius



*Taconite Ridge, Virginia, MN*



- 
- A black and white photograph of a large-scale mining operation. In the foreground, several workers wearing hard hats and work clothes are operating heavy machinery, including large drills or crushers. The background shows a massive pile of excavated material and a large, complex metal structure, possibly a conveyor system or part of a mine shaft. The sky is overcast with clouds.
- Mine where the resource is located
  - World class mineral resource
  - Domestic source
  - Established mining district
  - Proud MN mining history and culture

# NorthMet deposit – potential

- 20 year mine **plan = 3.6** billion pounds copper equivalent
- Measured & indicated **resource = 10.3** billion pounds copper equivalent
- Global **resource = 15.4** billion pounds copper equivalent

# Economic benefits and job creation

**\$515 million**

annual economic benefit

**1000 jobs**

direct and spinoff

**2 million hours**

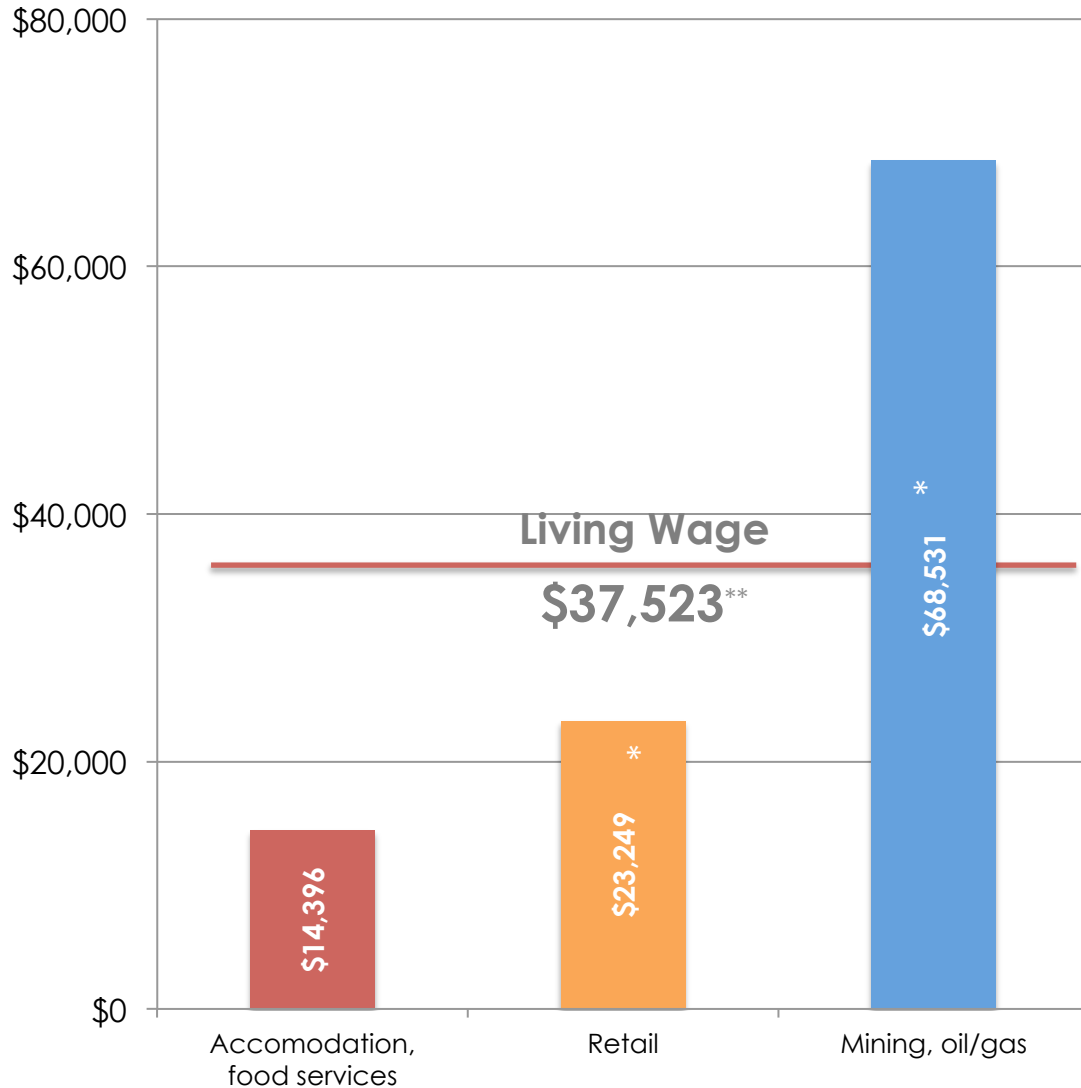
construction labor - PLA



Source: NorthMet Economic Impact 2011 Update  
University Of Minnesota Duluth  
Labovitz School of Business and Economics



# Annual wage comparison



Mining supports families  
and strong communities

*\*Annual salary data from Positively Minnesota – DEED*

*\*\*Living Wage data in St. Louis County from MIT – [livingwage.mit.edu](http://livingwage.mit.edu)*

# Project investment since 2006



**44 million** wages and consulting

**88 million** environmental (permitting)

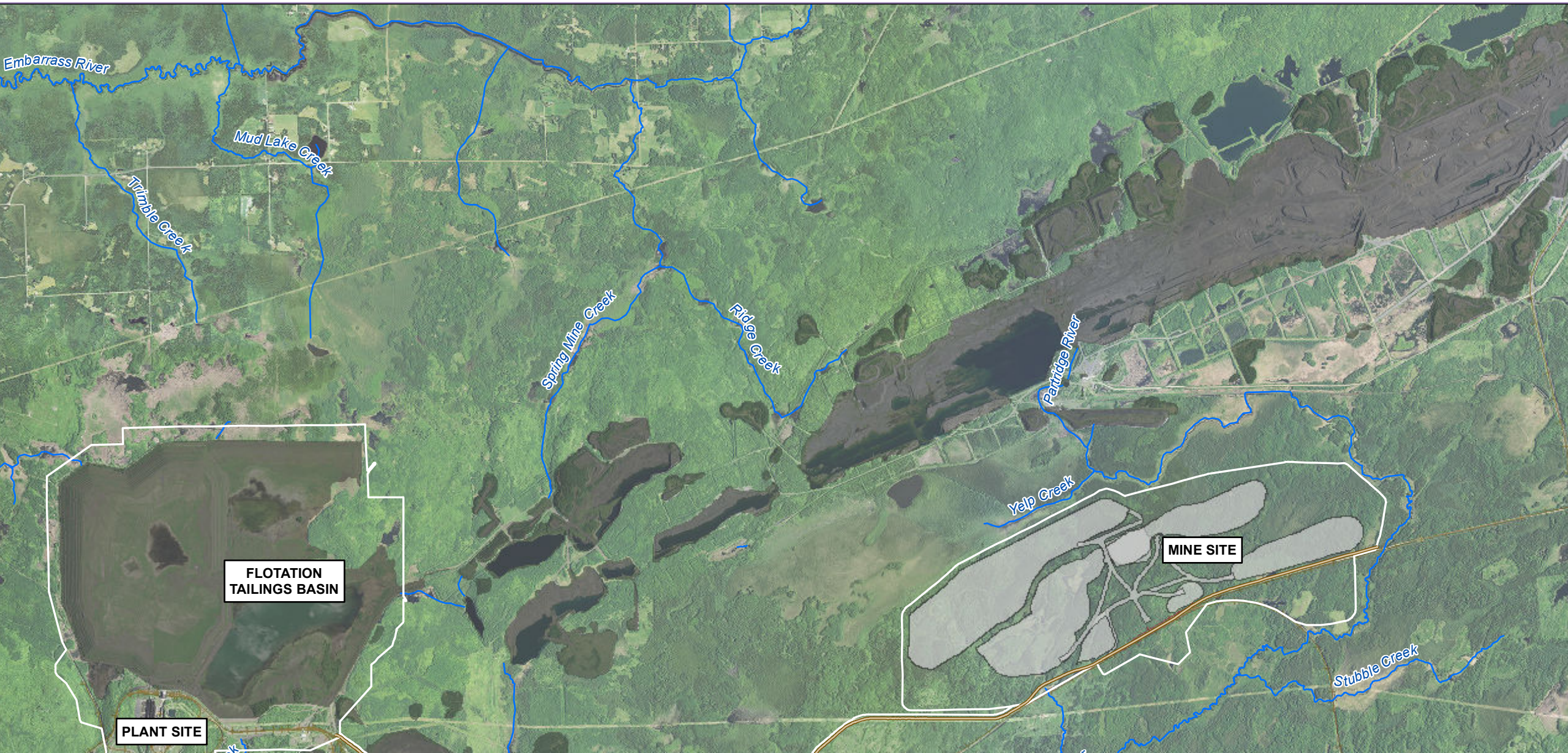
**111 million** other (mine plan, mill, mineral rights, etc.)

**243 million** total

# What's the plan?



# Open new mine in mining zone





# Reuse existing infrastructure

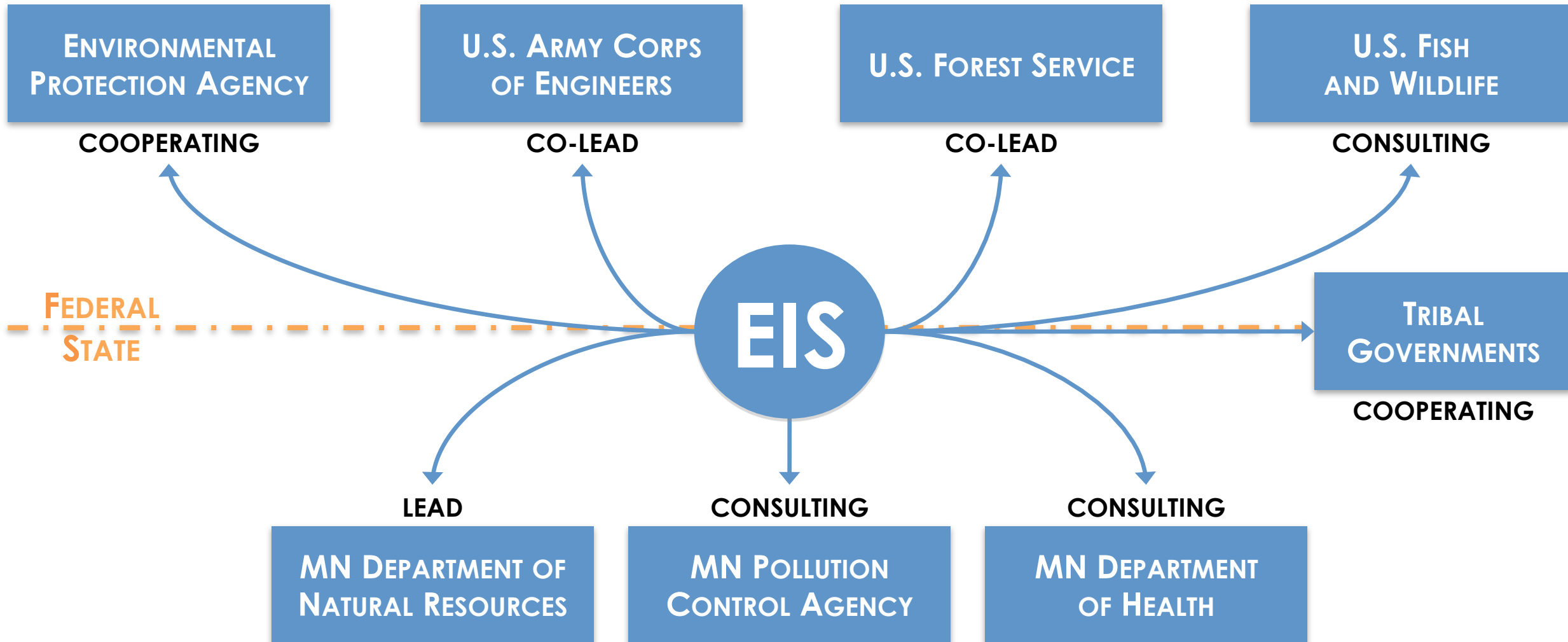


What's next?

# Project status



# Environmental Review



# Positive EPA letter (June 22 PFEIS)

- Aug 5, EPA letter states:

*“The PFEIS reflects many improvements to the project, and to the clarity and completeness of the environmental review.”*

*“Our extensive discussions with the co-lead and cooperating agencies have helped to resolve virtually all of our previous comments..”*

# Path Forward:

## Complete Environmental Review and Permitting

### DNR

#### (MEPA Review)

- FEIS (Nov 2015)
- Adequacy Decision (Feb 2016)

### USFS

- FEIS (Nov 2015)
- Record of Decision
- Execute Land Exchange

### USACE

- FEIS (Nov 2015)
- Record of Decision
- Issue CWA 404 Wetland Permit



# Major State Permits

