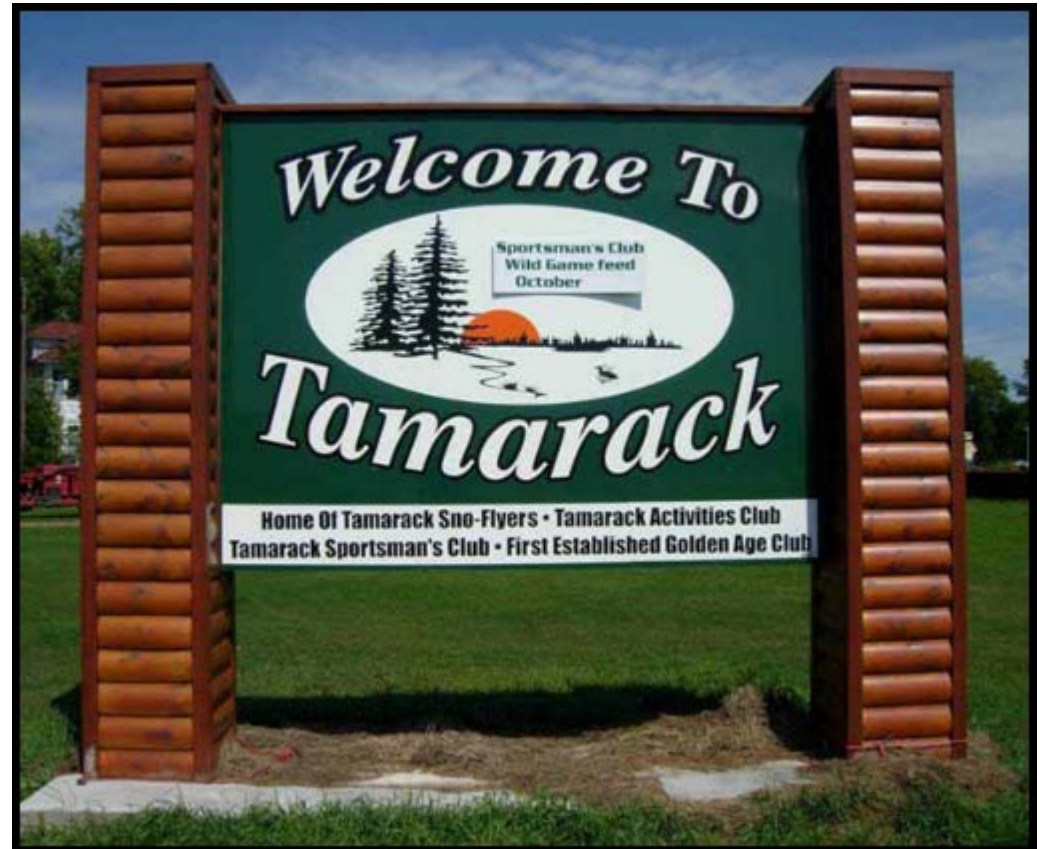


Community Outreach in Exploration: An Example from Minnesota

Amanda Miller
Community Coordinator
Kenecott Exploration Company



Presentation Outline

- Rio Tinto and Kennecott
- Context and history of the Tamarack Project
- Why is community outreach important during exploration?
- How did we get it wrong?
- How can we get it right?
- Social License
- How do we benefit?

Who we are

KENNECOTT
EXPLORATION

RioTinto

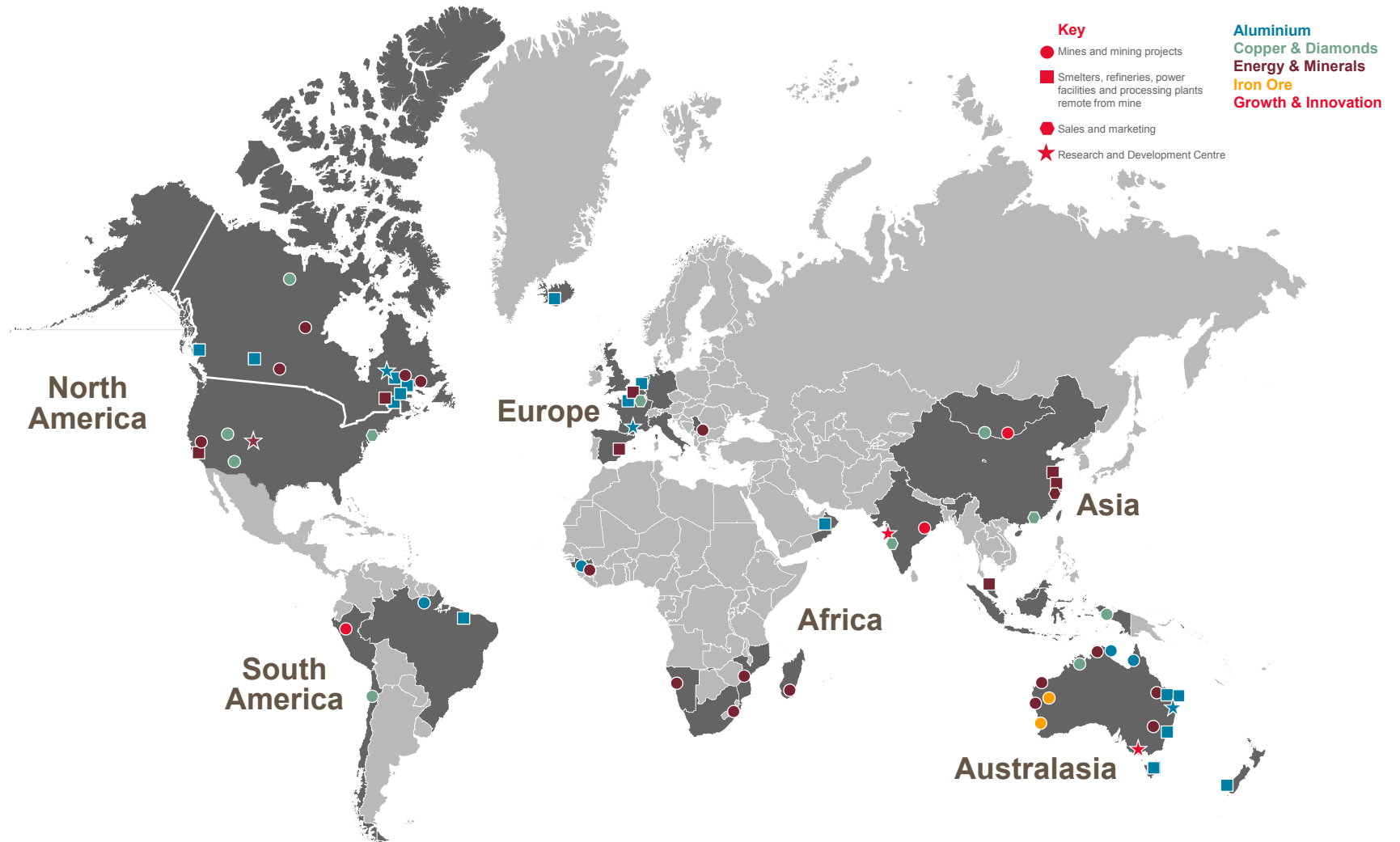
Kennecott is wholly owned by Rio Tinto. Kennecott has been operating in North America for over 100 years.

- We are the second largest mining company in the world.
- We employ approximately 55,000 people in over 40 countries
- Wherever we operate, safety is our most important value
- Sustainable development is at the heart of our business

Rio Tinto takes a long-term, responsible approach to mining.

Where we operate

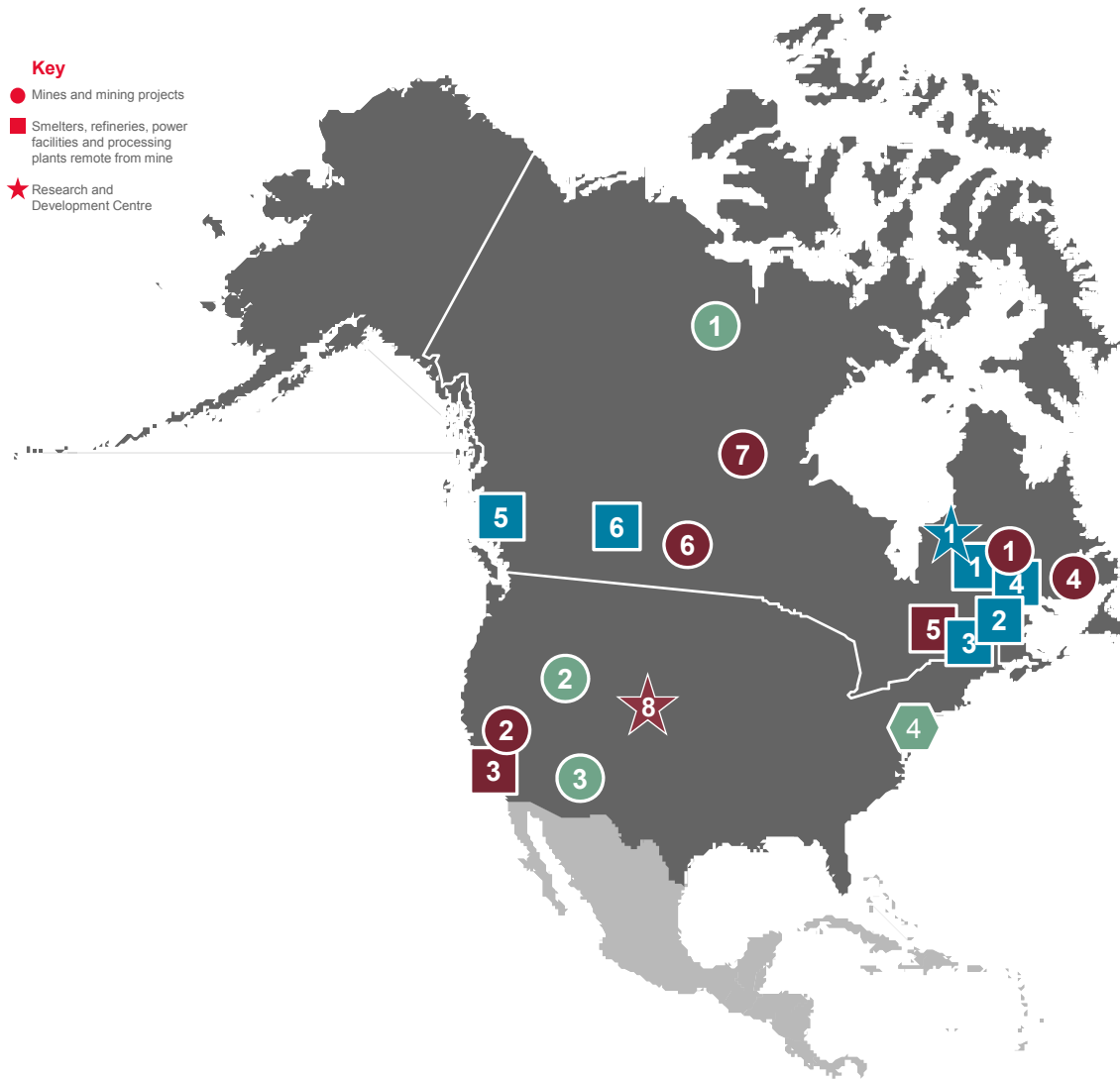
at December 2016



North America activities

at December 2016

- Key**
- Mines and mining projects
 - Smelters, refineries, power facilities and processing plants remote from mine
 - ★ Research and Development Centre



Aluminium

- 1** Saguenay-Lac-Saint-Jean smelter
 - Alma – Aluminium smelter
 - AP60 – Aluminium smelter
 - Laterrière – Aluminium smelter
 - Grande-Baie – Aluminium smelter
 - Small Ingots Saguenay – Casting centre
 - Dubuc – Casting centre
 - Aluminium Operations Centre
- 2** ABI (Bécancour) (25.1%) – Aluminium smelter
- 3** Beauharnois – Production support facility
- 4** Alouette (40%) – Aluminium smelter
- 5** Kitimat – Aluminium smelter
- 6** Kemano – Power station
- 6** Strathcona – Production support facility

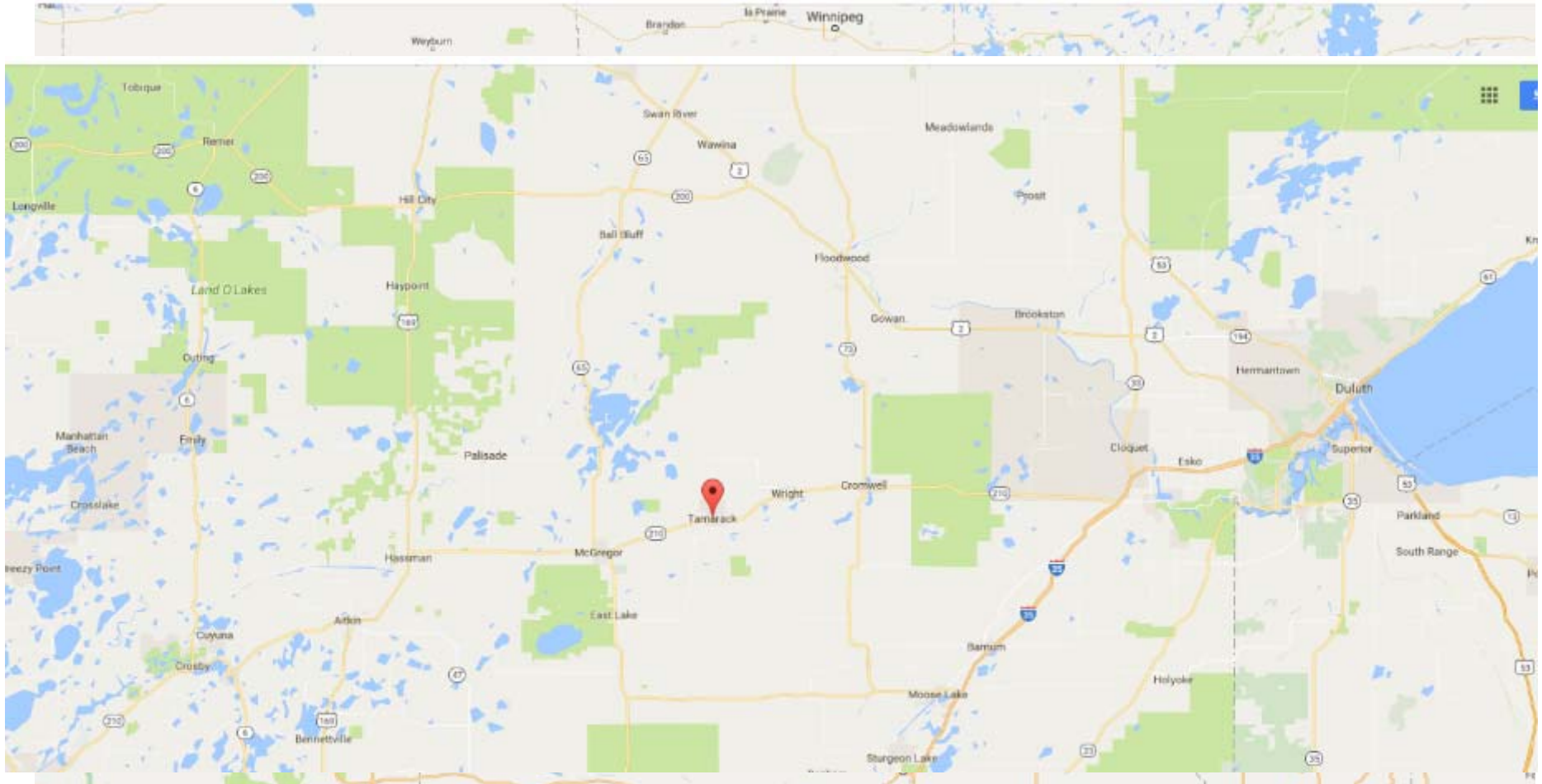
Copper & Diamonds

- 1** Diavik (60%) – Diamond operating site
- 2** Rio Tinto Kennecott – Copper operating site
- 3** Resolution (55%) – Copper project
- 4** New York – Diamond sales and marketing

Energy & Minerals

- 1** Iron Ore Company of Canada (58.7%) – Iron ore operating site
- 2** Boron – Borates operating site
- 3** Wilmington Plant – Borates operating site
- 4** Rio Tinto Fer et Titane (Havre-Saint-Pierre) – Titanium dioxide feedstock operating site
- 5** Rio Tinto Fer et Titane (Sorel plant) – Titanium dioxide feedstock operating site
- 6** Potash Saskatchewan (32%) – Potash project
- 7** Rio Tinto Uranium Canada (100%) – Uranium project
- ★ Borates Research and Innovation Laboratory

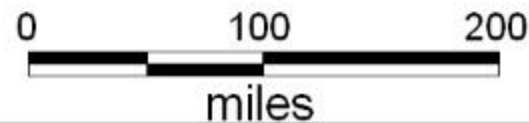
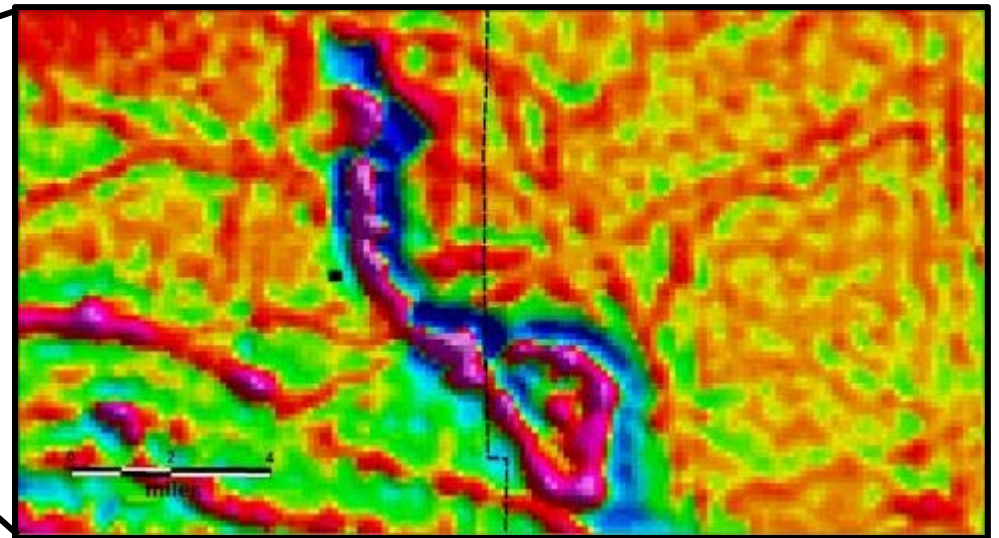
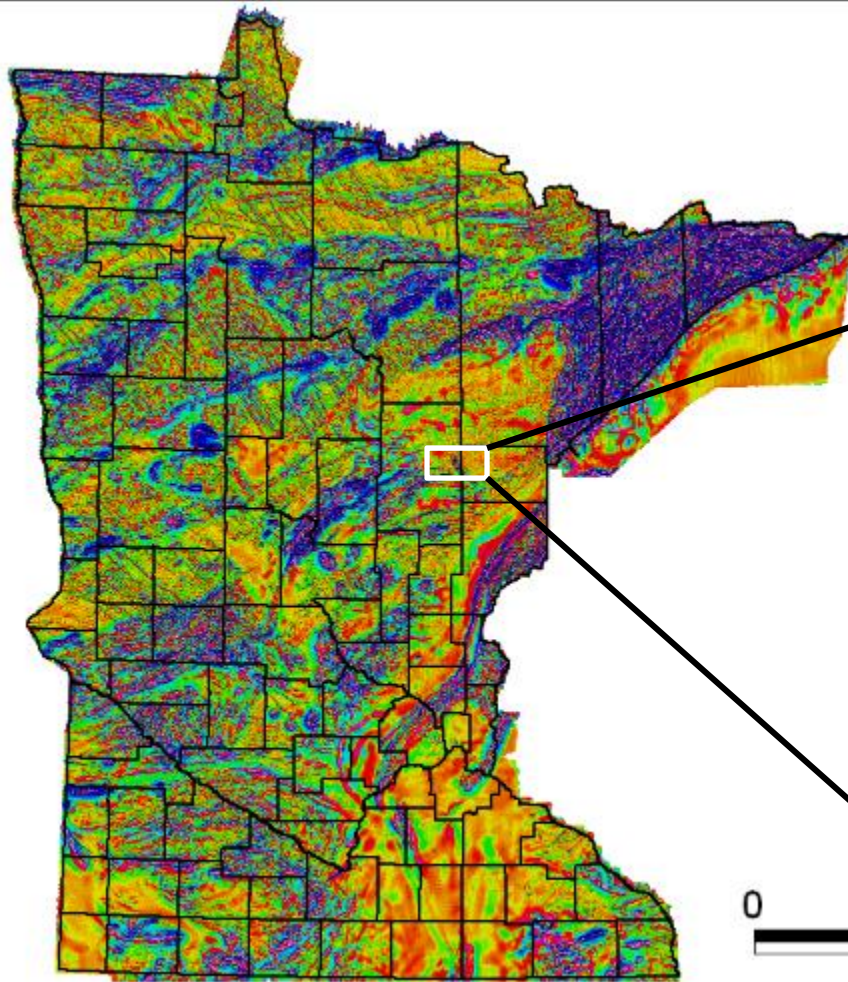
Tamarack, Minnesota: a greenfield nickel-copper exploration project



The most critical piece of information was publically funded geoscience information

Minnesota state high resolution airborne magnetic survey

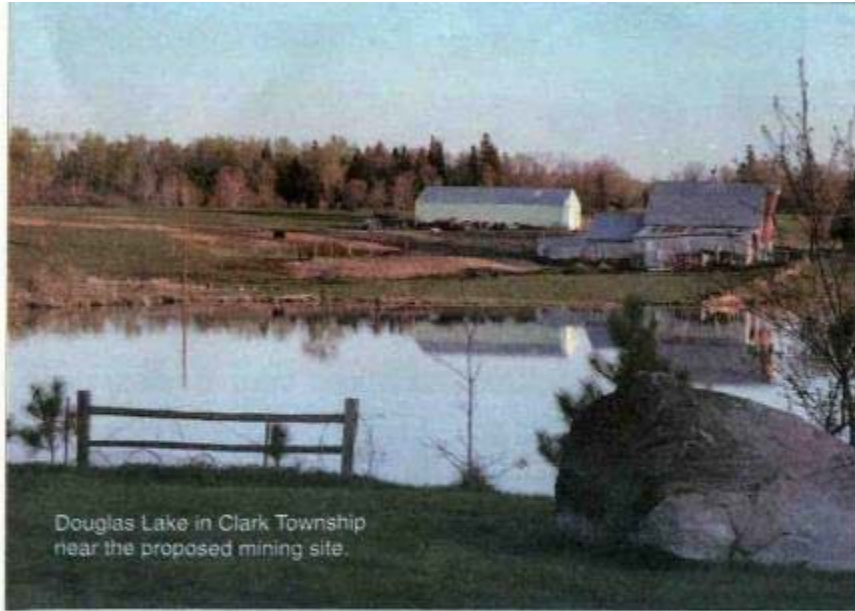
The general shape and dimensions of the Tamarack intrusion are clearly shown in the magnetic data



First vertical derivative -magnetics
Modified from Chandler (1991)

Tamarack Project Timeline

| | |
|--------------|---|
| 2000 | State mineral leases acquired |
| 2001 | First geophysical surveys |
| 2002 | Drilling begins |
| 2002-2008 | Drilling continues, though usually for just a few months each year |
| 2006 | County Commission denies key permit; community engagement intensifies |
| 2008 | Massive sulfide deposits of nickel and copper drilled |
| 2008-present | Exploration continues |
| 2014 | Talon Metals signs agreement to earn in to the project |
| 2017 | Winter drilling program |



Douglas Lake in Clark Township near the proposed mining site.

Photo by John Grones/Voyageur Press of McGrigor

Heavy metal discussions

The sulfuric acid and heavy metal residues that occur immediately continue to leach into the soil and water for generations after the mining is completed

Hazards of sulfide mining

Dear Neighbor:

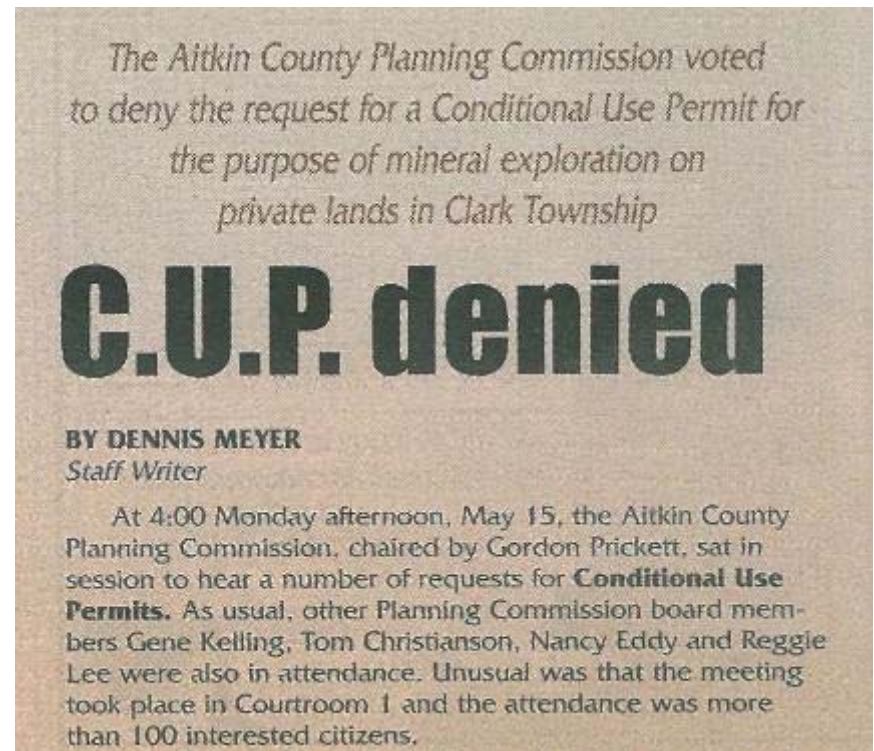
ALL RESIDENTS OF THE BIG SANDY WATERSHED SHOULD BE VERY CONCERNED! We recently received the attached notice of a hearing to rezone Farm, Residential, Open and Shoreland properties alongside Douglas and Nelson lakes with a Conditional Use Permit for mineral exploration activities. Both of these are natural environment lakes that empty into the Big Sandy Watershed.

Kennecott Mining and Exploration Company is in the 4th stage of mineral exploration on these properties. The next stage would be mining the Nickel/Copper/Gold/Zinc and other minerals they have discovered.



How do we get it wrong?

- Risks are increasingly not just from the technical issues (the “hazards”) but from perception (“outrage”)
- Risk = Hazard + Outrage (Peter Sandman)
- If we leave a vacuum of information, bad examples will define us.
- We’re aware of how the industry has changed – but in too many instances, we are defined by legacy issues.
- And some of these aren’t legacy issues – recent incidents at Mt. Polley and Samarco are on many peoples’ minds.
- The best way to minimize risk – and maximize opportunities – is to be transparent and proactive.



Getting it wrong is costly



How can we get it right? Engagement – and involvement

- Communication – listen, learn, and respond
- Understand the big and “little” issues
 - Economy, unemployment and education
 - Local workforce, local spend
 - Access to information
- Seek common goals – such as economic benefit and environmental protections



Change is possible

“It made a world of difference when the people from Kennecott became more visible. We found out that they were not aliens trying to destroy and pollute our water and land. We were able to better understand what they were looking for and what they were doing, rather than believing it was all a big secret.”



How do we maintain our license to operate?

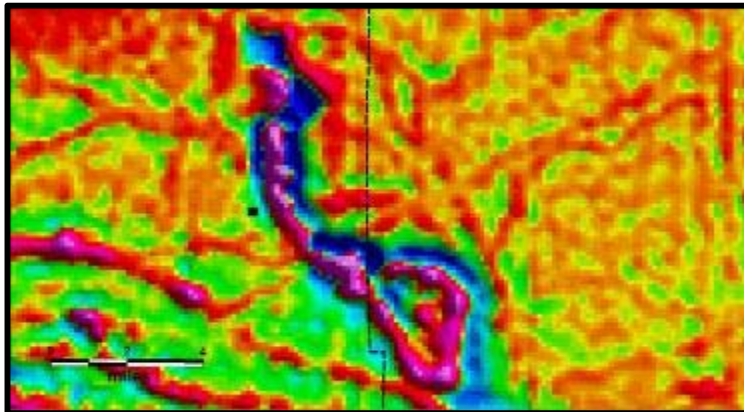
- It starts with respect and communication.
- We treat community engagement as a key part of our exploration activity.
- We provide good information about exploration – over, and over, and over. We have an open door policy, and do core shed visits and drill site visits frequently.
- We're honest – and try not to raise expectations. More than 99% of exploration projects fail! We can't keep promising jobs which may never come.
- But we can involve people - we hire locally, buy locally, and attend community meetings and events.
- We try to include stakeholders in decisions – often a little input goes a long way.

How do companies benefit from engagement?

- Creates a sustained ability to operation and develop new projects.
- Increases efficiency and reduces costs.
- Avoids likelihood of a high-profile crisis.
- Builds enduring value to shareholders and stakeholders.
- Companies that are regarded as socially responsible may more easily be able to recruit local people and other qualified employees.
- Better relationships and trust with the communities you operate in.

Geology of Tamarack

- Intrusive complex about 12 miles long by 2 miles wide.
- There are no outcrops so we rely on geophysics to identify drill targets.
- Mineralization is hosted in peridotite.
- We believe it is associated with the Mid Continent Rift that occurred ~1.1 billion years ago
 - We are currently focusing on defining boundaries of the resource.
- The deposit was discovered by the team who found the Eagle Mine which is currently in production in the UP of Michigan and is operated by Lundin Mining.
- We're still drilling and moving the project forward.



Questions?

