

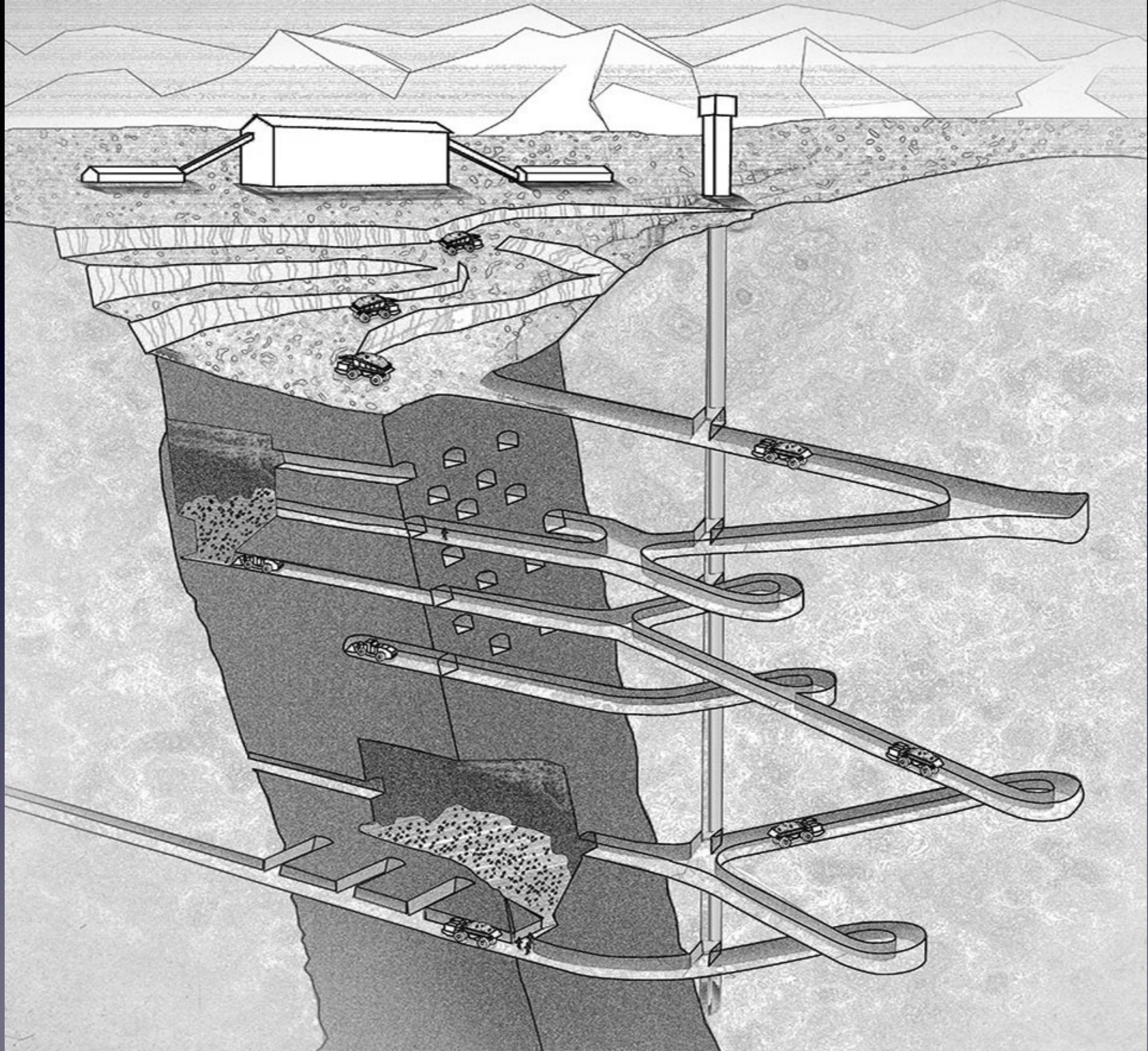
# Mining and Mineral Exploration

# Common Mining Practices

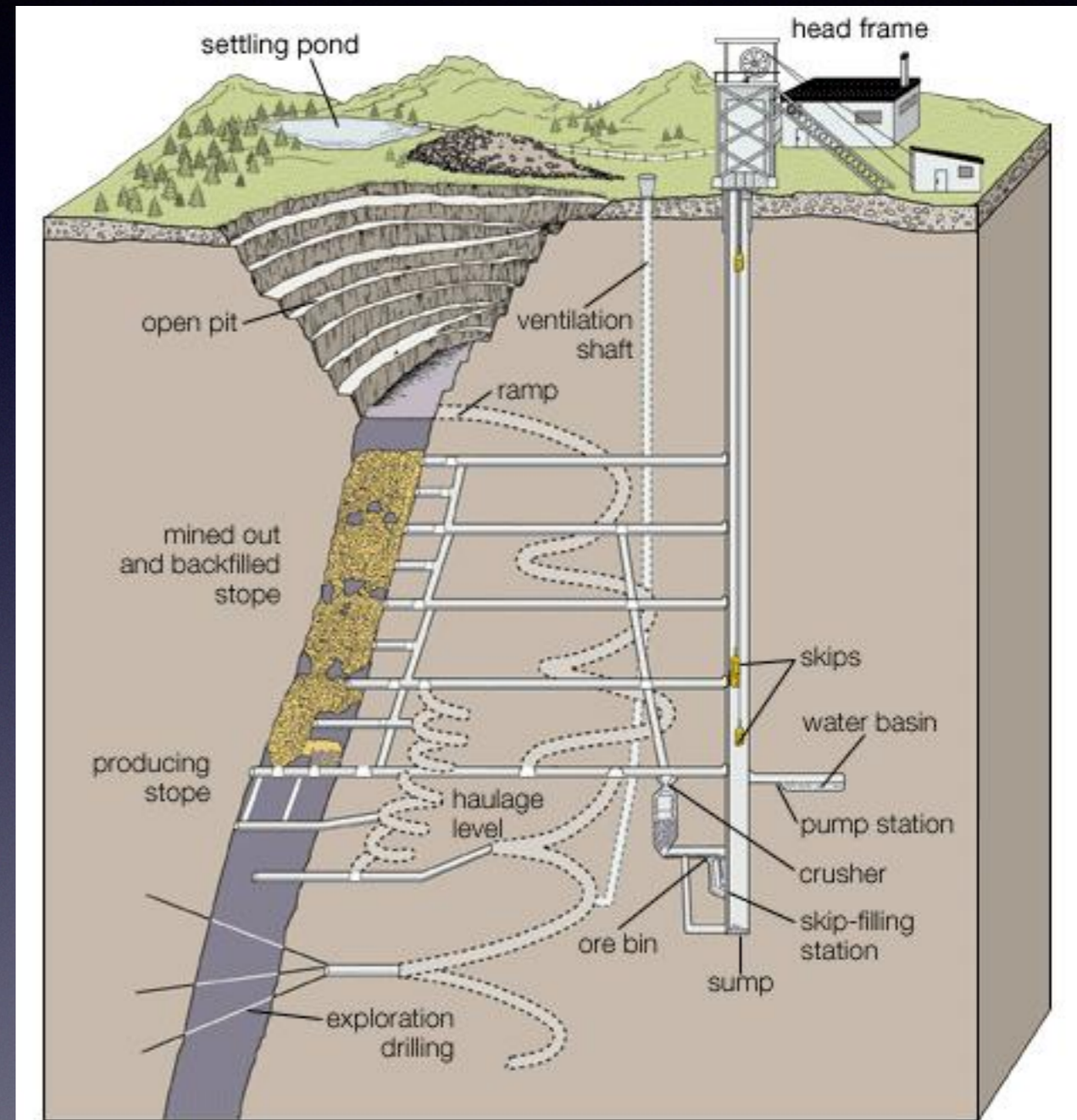
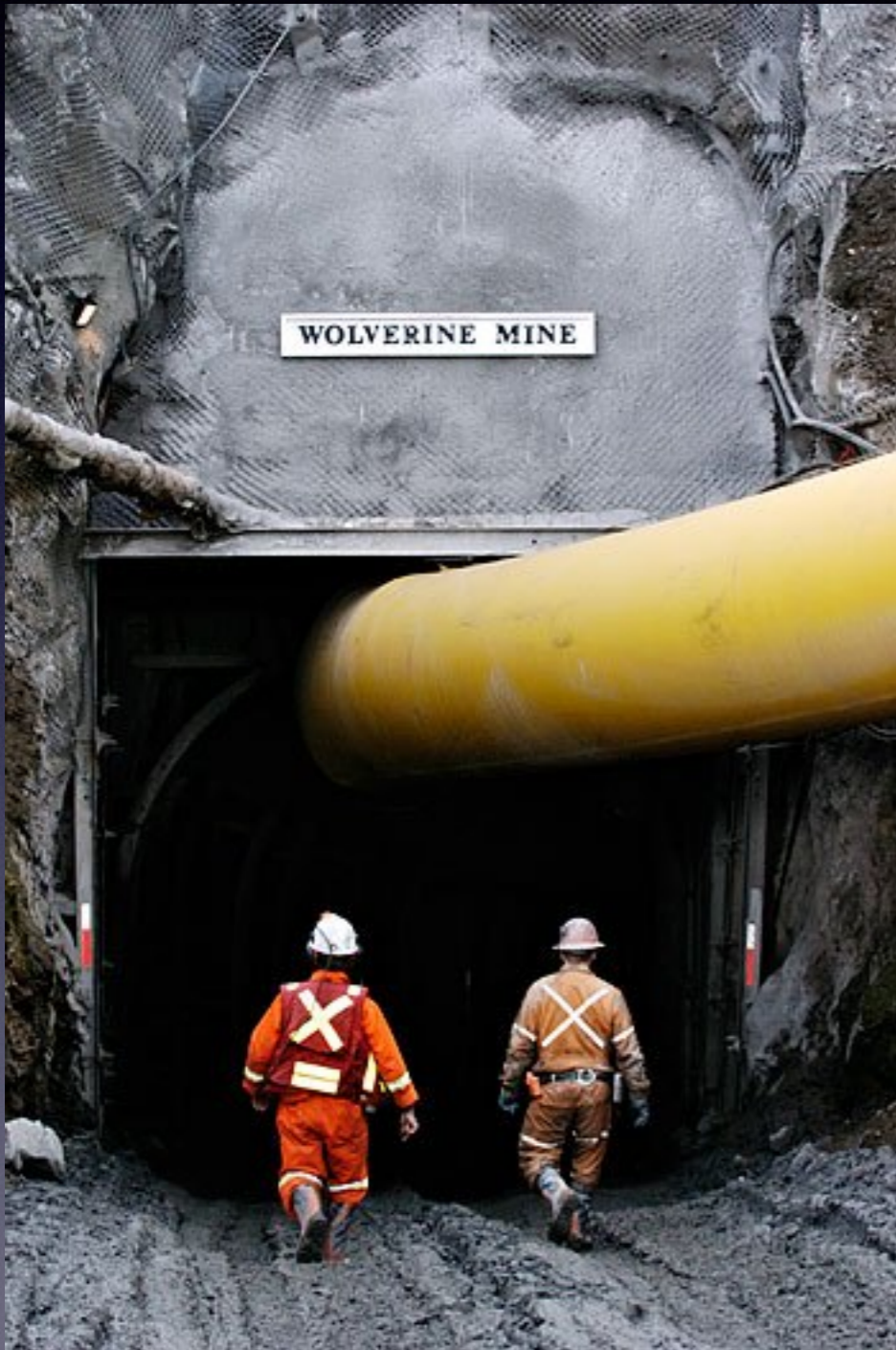
- Underground
- Surface
- Placer
- In Situ

# Underground Mining

- Commonly referred to as hard rock mining
- Utilized when mineral deposits are considerably deeper underground
- Ore bodies accessed via declines, shafts or adits
- Deepest mine located in South Africa at 3900 m depth



# Wolverine Pb-Zn Mine



© 2007 Encyclopædia Britannica, Inc. Source: H. Hamrin, *Guide to Underground Mining Methods and Applications* (Stockholm: Atlas Copco, 1997)

# Surface Mining

- Commonly referred to as open pit mining
- Used to access shallow mineral deposits
- Produces large amounts of waste rock and ore bodies



©Tim Roberts Photography  
[www.trphotoonline.com](http://www.trphotoonline.com)

# Minto Copper Mine





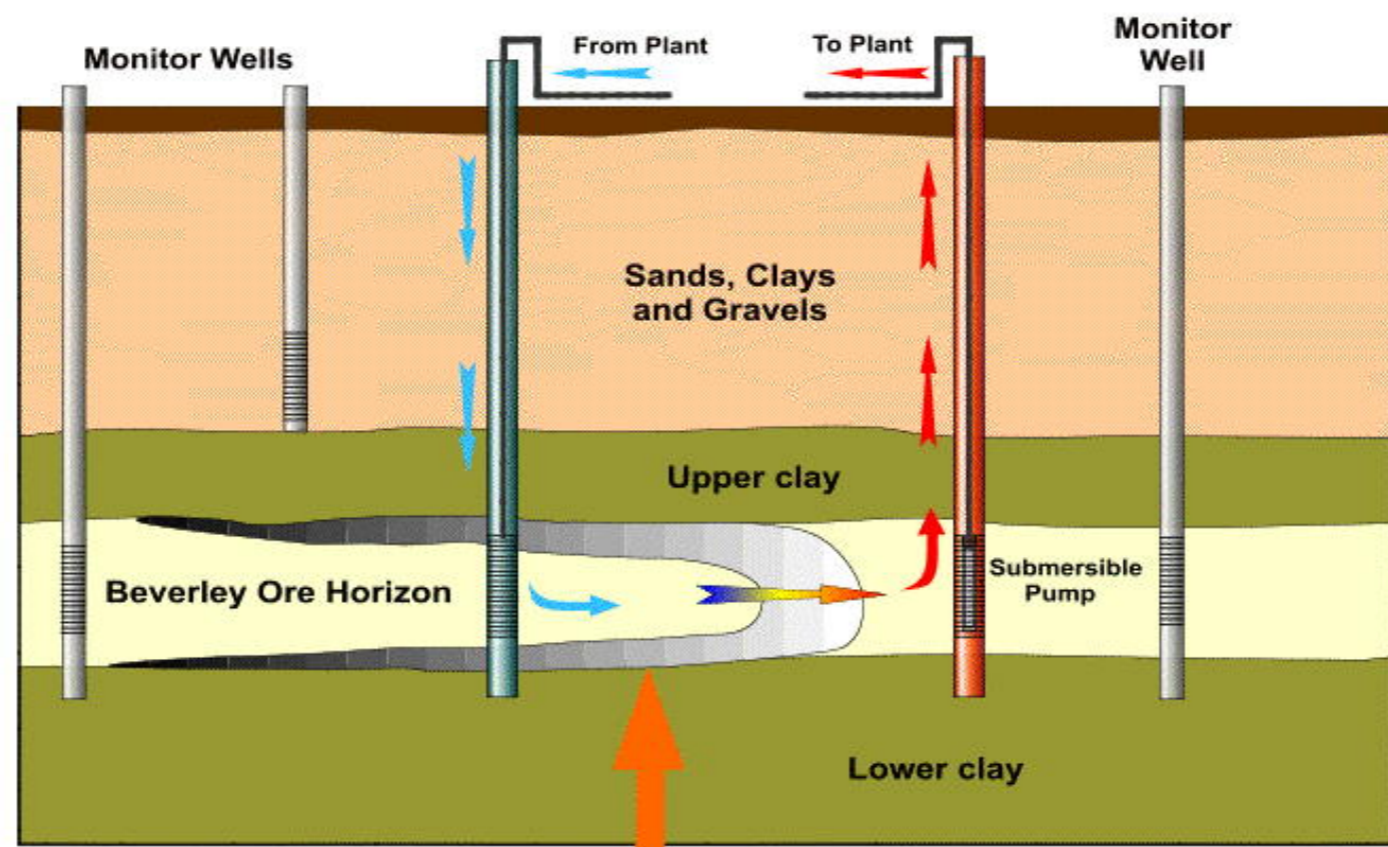
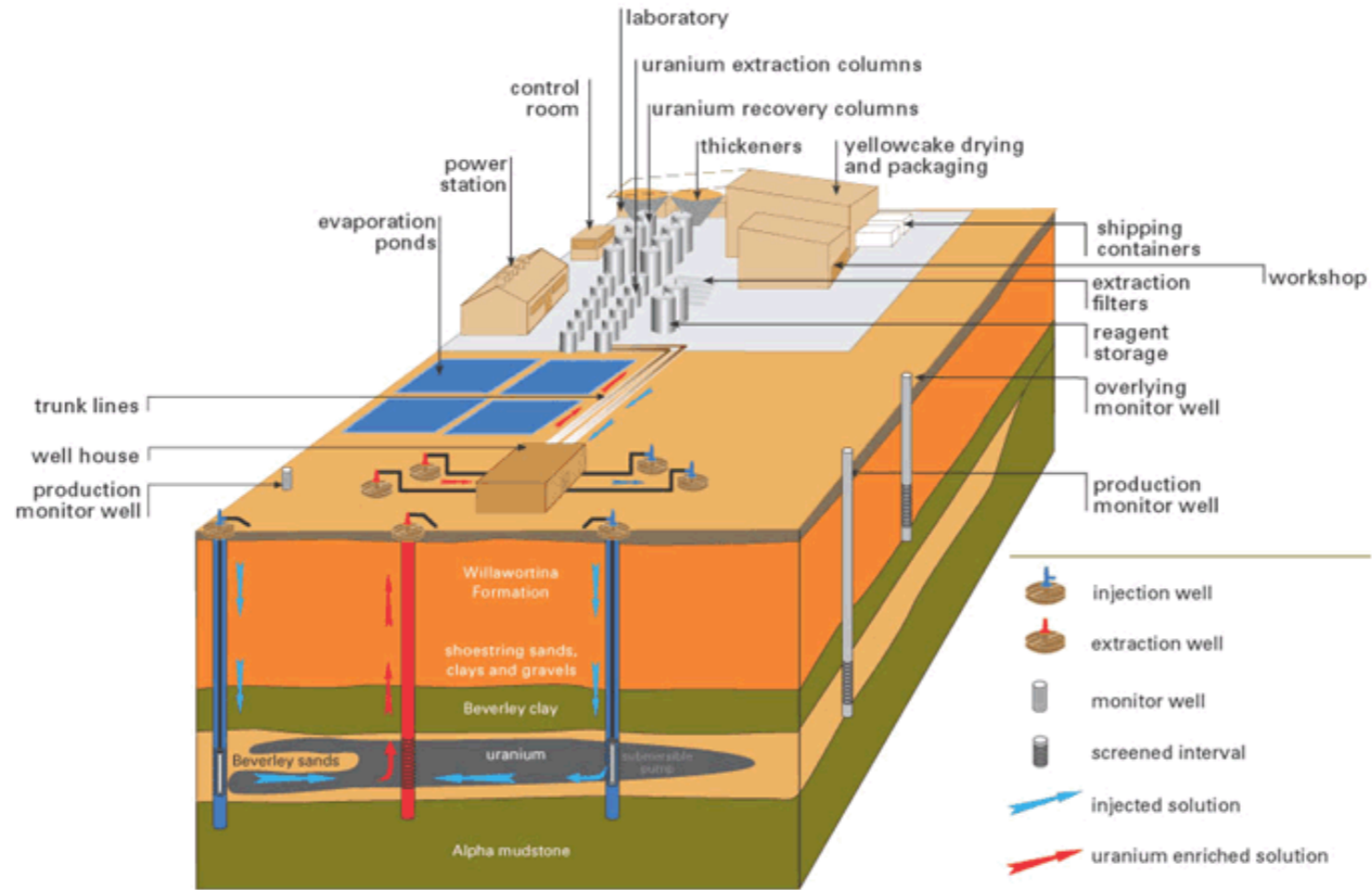
# Placer Mining

- Very common in the Yukon and Alaska
- Individual claims allow placer miners to sift through riverbed sediments in search of fine metals such as gold



# In - Situ Leaching

- Primarily used to extract uranium from underground sources
- Ore bodies and waste rock not removed from the ground
- Very little surface disruption
- Chemicals dissolve the valuable extract underground and is pumped to the surface for processing



**Uranium Deposit**

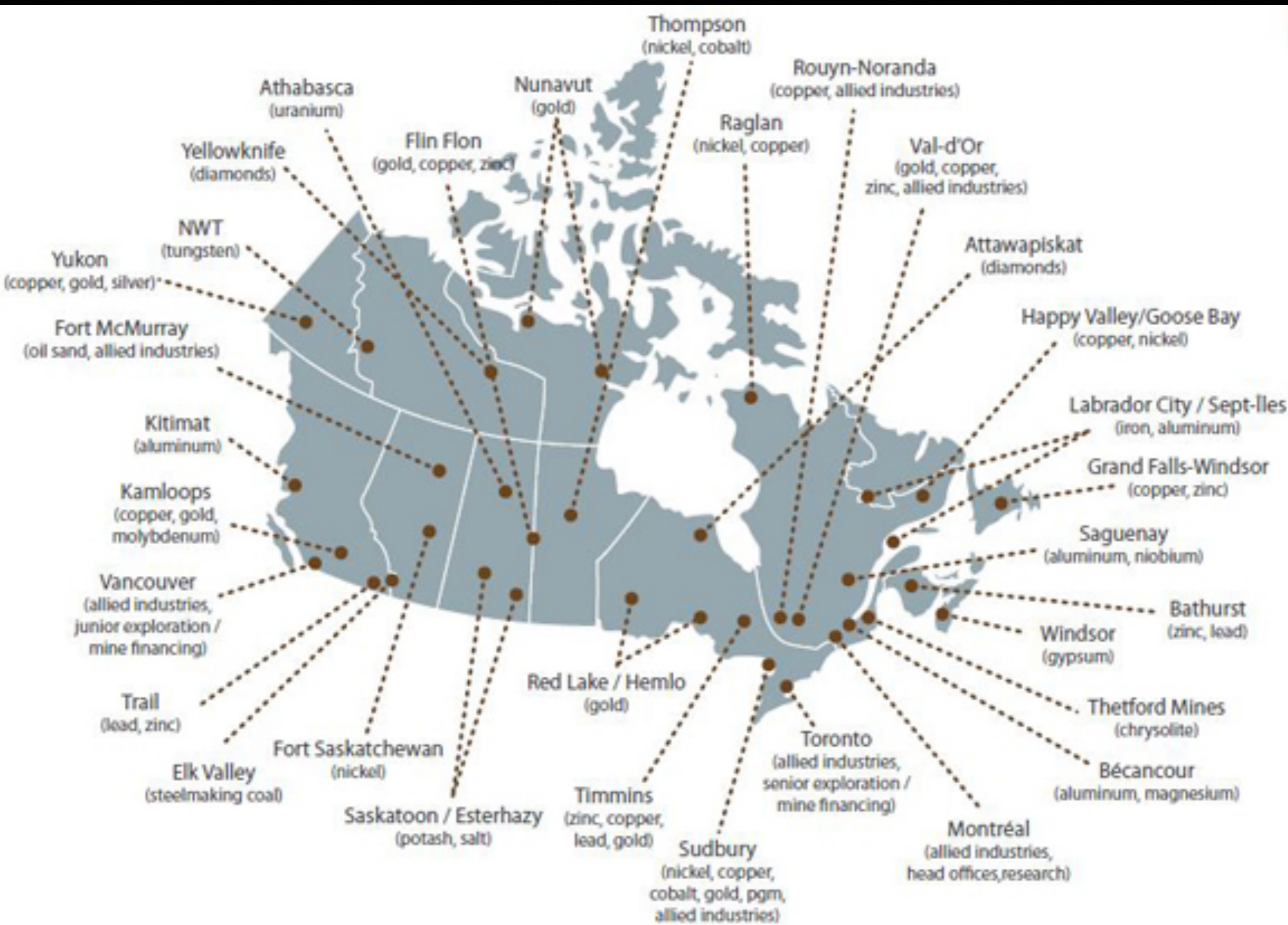
# Mining in Canada

- Mining directly employs over 400,000 people in Canada and an additional 193,000 people indirectly
- Canada has one of the largest mining supply sectors globally
- Mining accounts for 19% of Canada's exports (2016)
- Canada produces over 60 metals and minerals and ranks 1st globally in potash production

# Mining in Canada

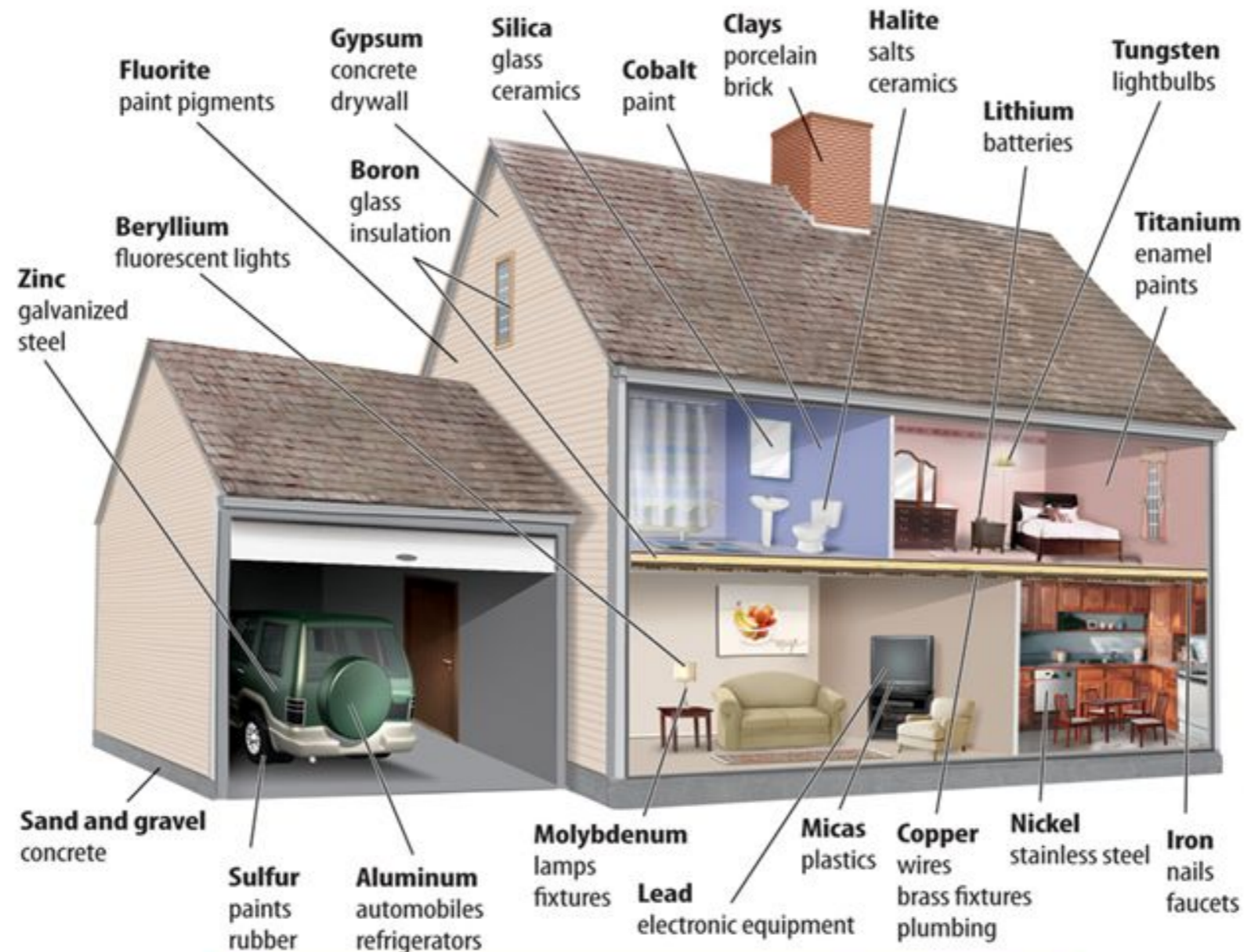
## **DIAVIK DIAMOND MINE** **CANADA**





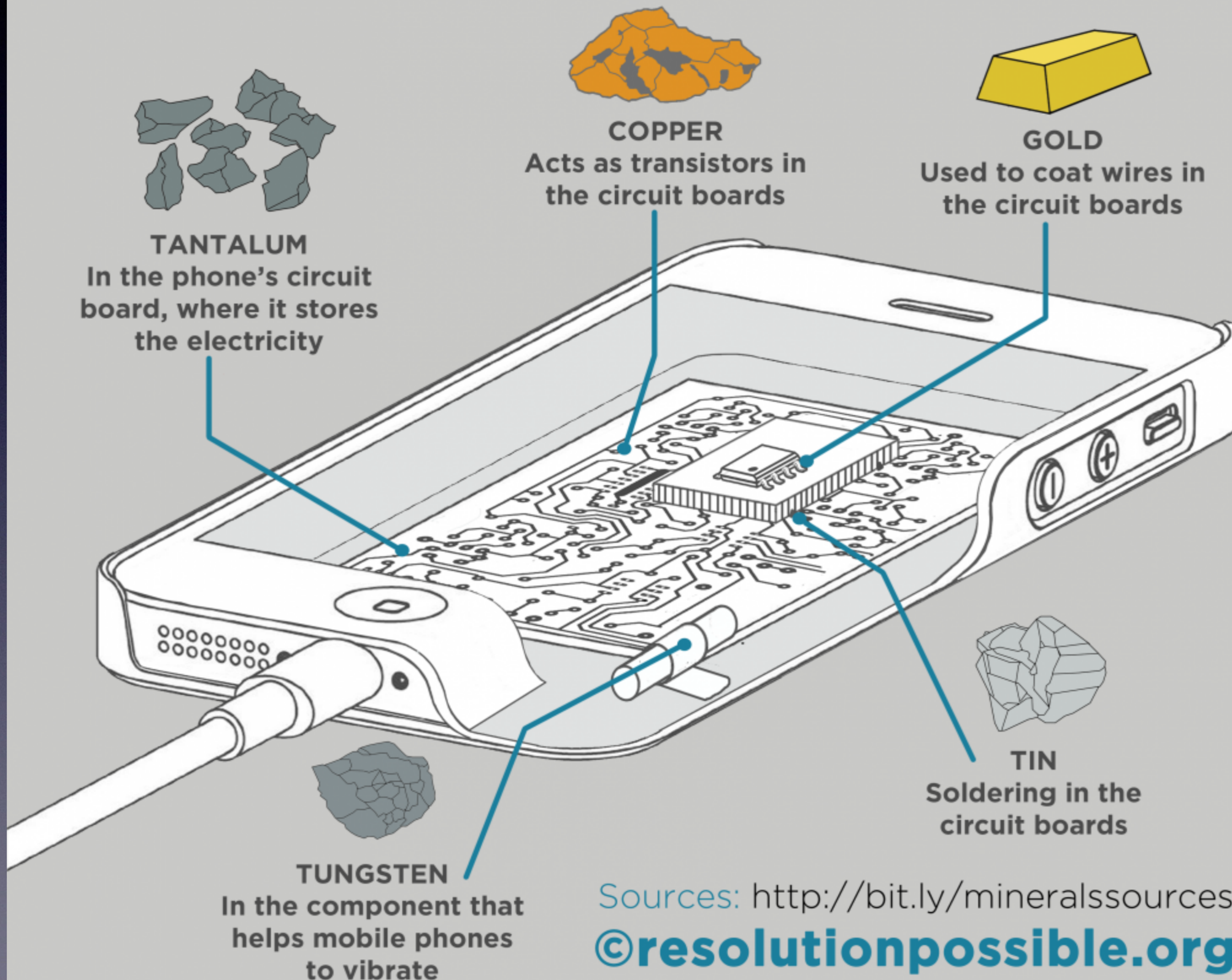
# Practical Applications

Minerals are valuable resources used to construct many parts of a home.





# WHAT IS IN YOUR MOBILE PHONE?



Sources: <http://bit.ly/mineralssources>  
©**resolutionpossible.org**

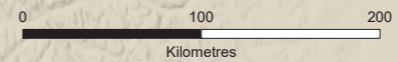
# Yukon Mining and Exploration Projects 2017

## MINING AND EXPLORATION PROJECTS

Commodity	Exploration projects - deposit type	Mining projects - development phase
○ silver	△ mafic/ultramafic associated	⊙ planning, design and assessment
● gold	⊕ mississippi valley type	⊙ assessment complete; may proceed to approvals
● copper	□ porphyry/sheeted vein	⊗ fully permitted; may proceed to construction
● jade	◇ sediment associated	⊗ operation and production
● nickel +/- PGE	◇ skarn/replacement	⊗ temporary closure
● lead/zinc	◇ vein/breccia	
● tungsten	▽ volcanic associated	
● unknown	☆ unknown	
<b>Drilling program</b>	<b>Expenditures</b>	
• indicates drilling program	projects with >\$500,000 in expenditures are large symbols	
	projects with <\$500,000 in expenditures are small symbols	

## MAP FEATURES

● community	⊙ generating stations
★ capital city	⊙ diesel
⊙ deep water port	⊙ hydroelectric
<b>Transportation routes</b>	⊙ liquified natural gas
— primary highway	<b>Transmission line</b>
— secondary highway	— < 138 kV
--- proposed	— 138 kV
<b>Parks and protected areas</b>	<b>Mineral tenures</b>
■ national/territorial park	■ staked in 2017
■ interim staking prohibition	■ active and pending



January 2018

