

PHANEROZOIC

PALEOZOIC

PROTEROZOIC

PRECAMBRIAN

ARCHEAN

HADEAN

PERIOD

ERA

EPOCH

65

250

540

723

900

1200

1840

2200

2500

2600

2700

3800

4000

Modern man; northern glaciation

First dinosaurs: Abundant cycads and conifers.

First fishes: invertebrates dominant.

First abundant record of marine life; trilobites dominant.

Kimberlite Intrusion

Pine Point Mineralization

Franklin Hills

Stromatolites

Proterozoic River

Megacrystic Granite

Sedimentary Rocks

Stromatolites

Yellowknife Gold Mineralization

Yellowknife Yellow Volcanics

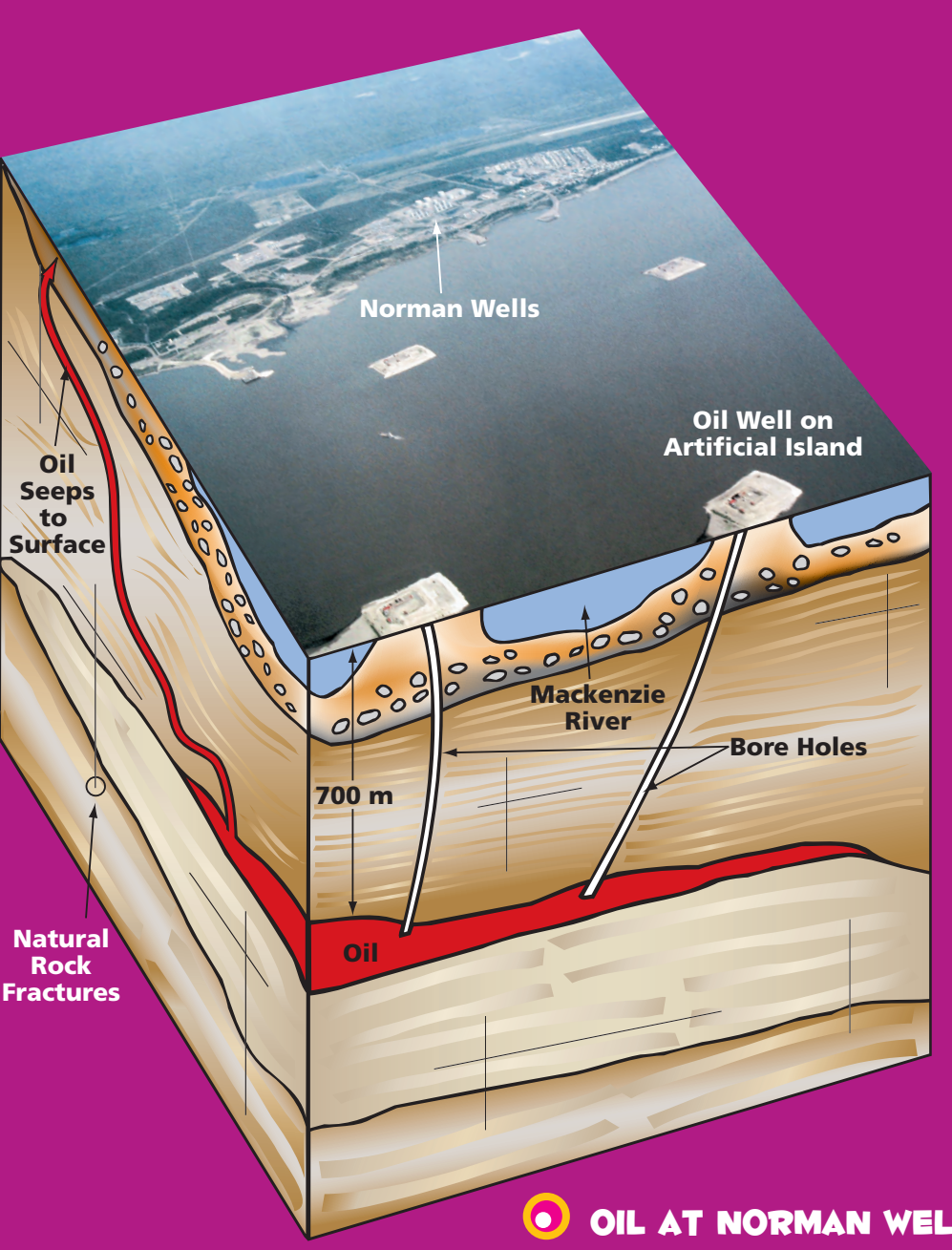
South Arm (Oldest known rocks in the world)

# NORTHWEST TERRITORIES GEOSCAPE

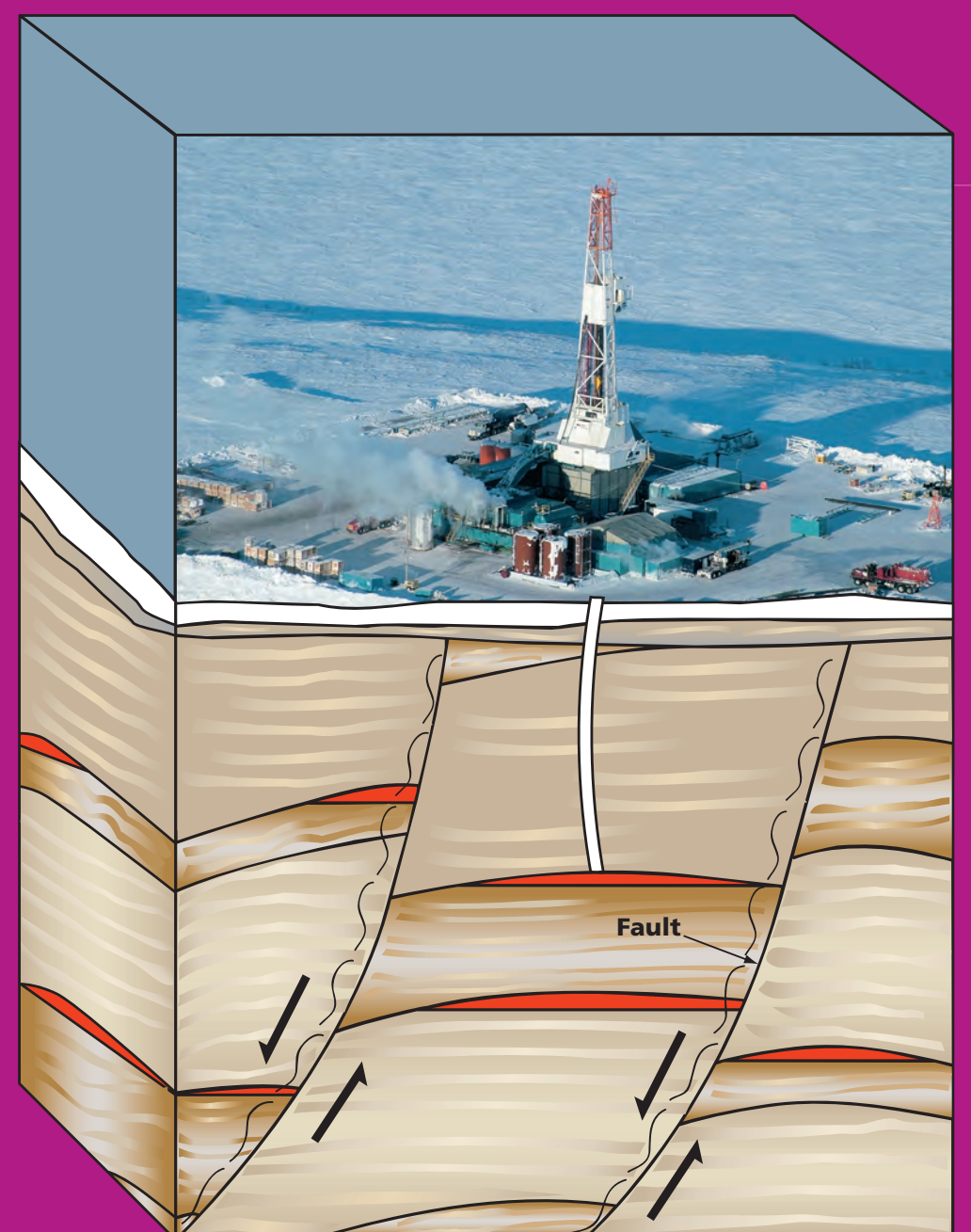
## ROCKS AND RESOURCES

### GAS & OIL

Gas and oil pass through porous rock and can become trapped in folded or faulted rocks.



OIL AT NORMAN WELLS

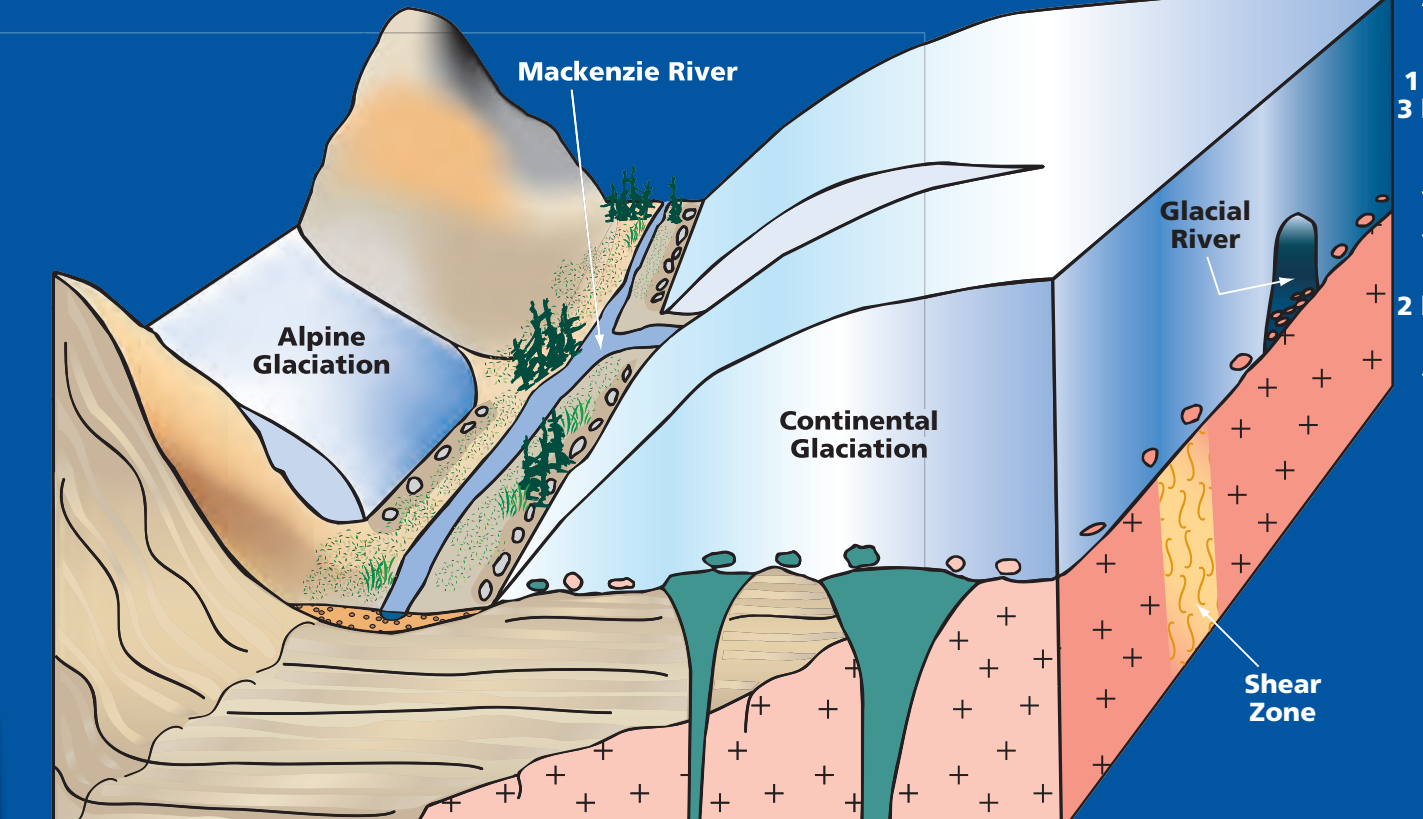


GAS IN MACKENZIE DELTA

Oil from seeps found along the Mackenzie River was used by First Nations people as a sealant for their canoes.

The first oil well at Norman Wells was drilled in 1920.

### THE BIG FREEZE

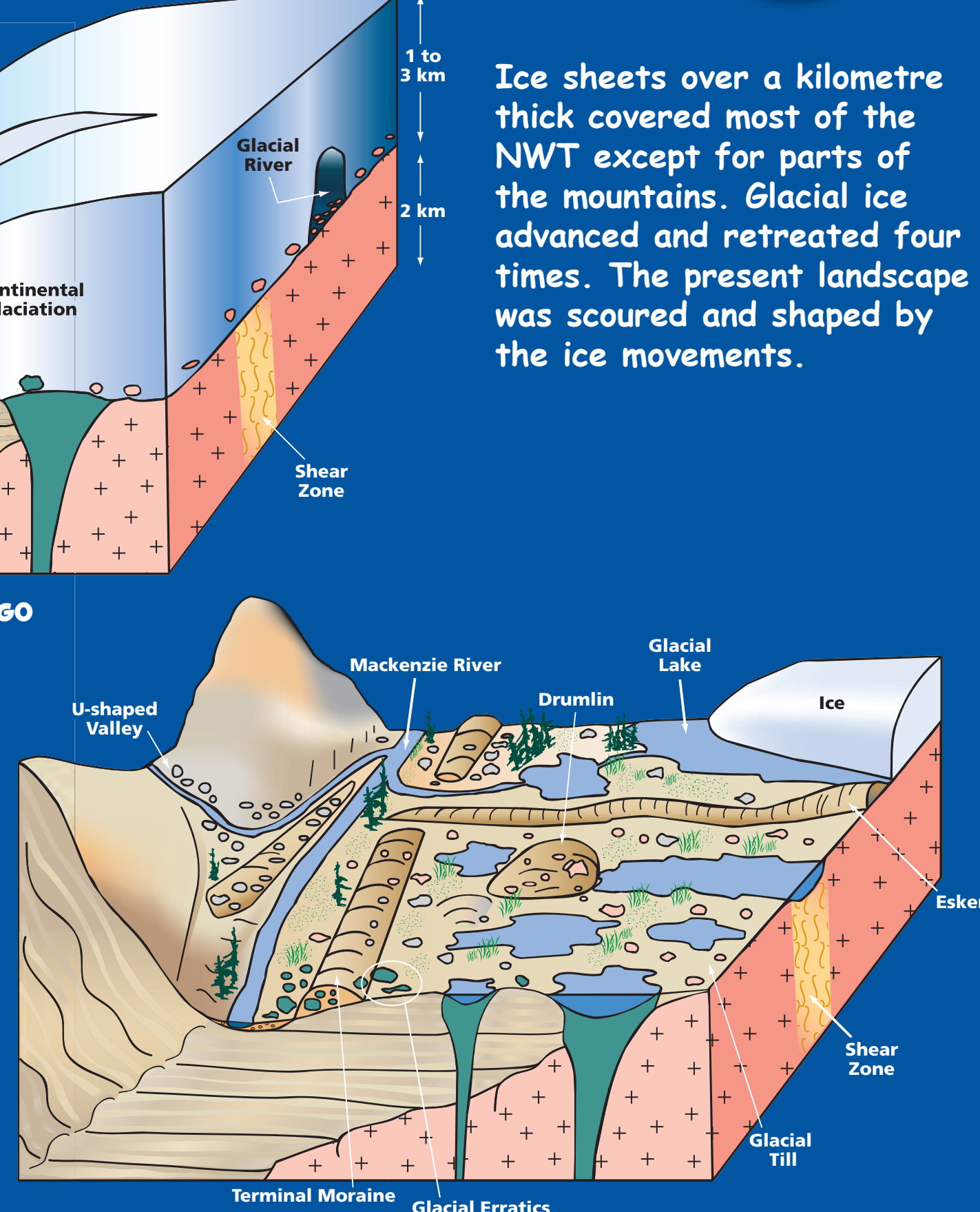


THE ICE AGE. ABOUT 16,000 YEARS AGO

The weight and movement of the ice ground the rocks into gravel and sand. This material was transported and deposited, reshaping the landscape.

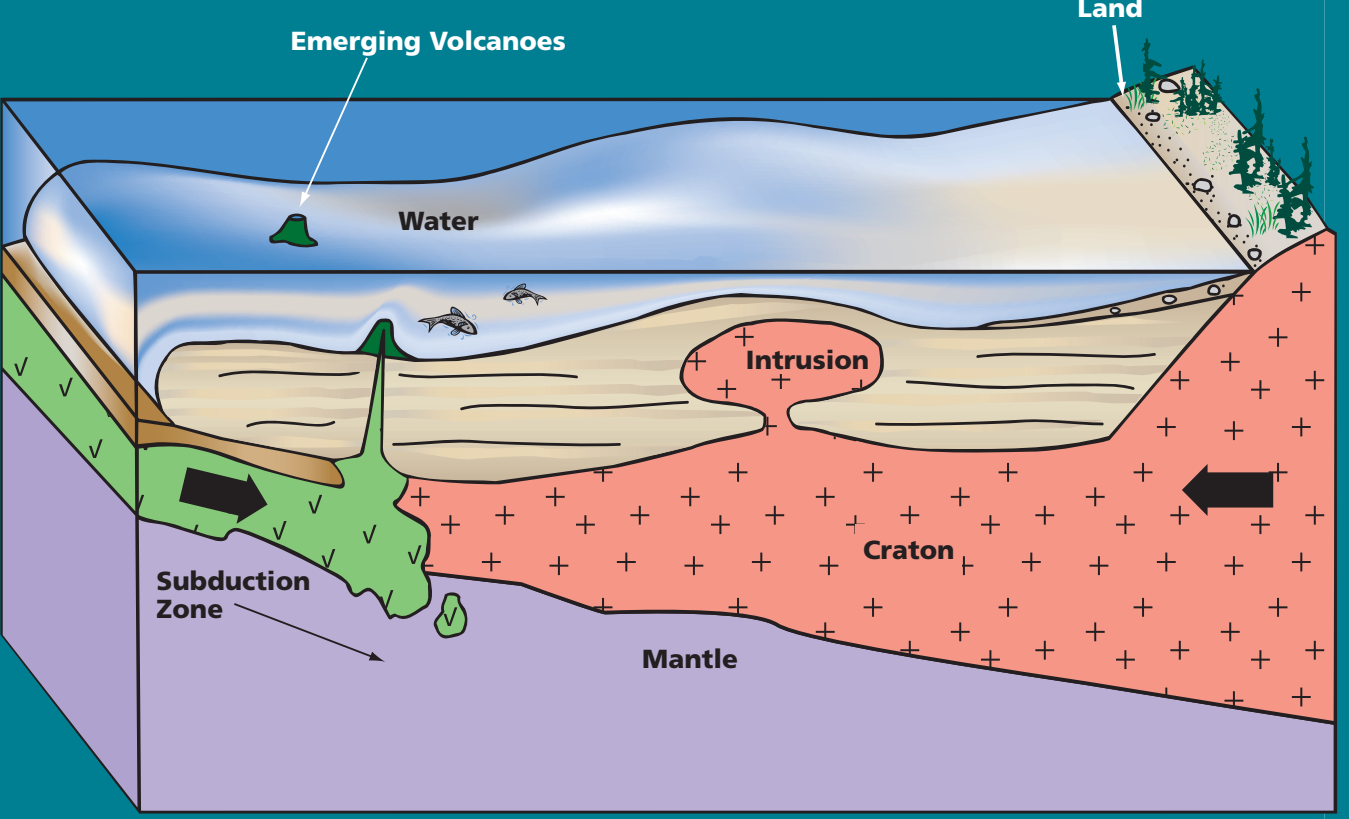
Glacial material provides us with industrial resources like gravel and sand.

Boulders and till deposited by glaciers can be used to trace back to the source of mineral deposits.



THE END OF THE ICE AGE ABOUT 10,000 YEARS AGO

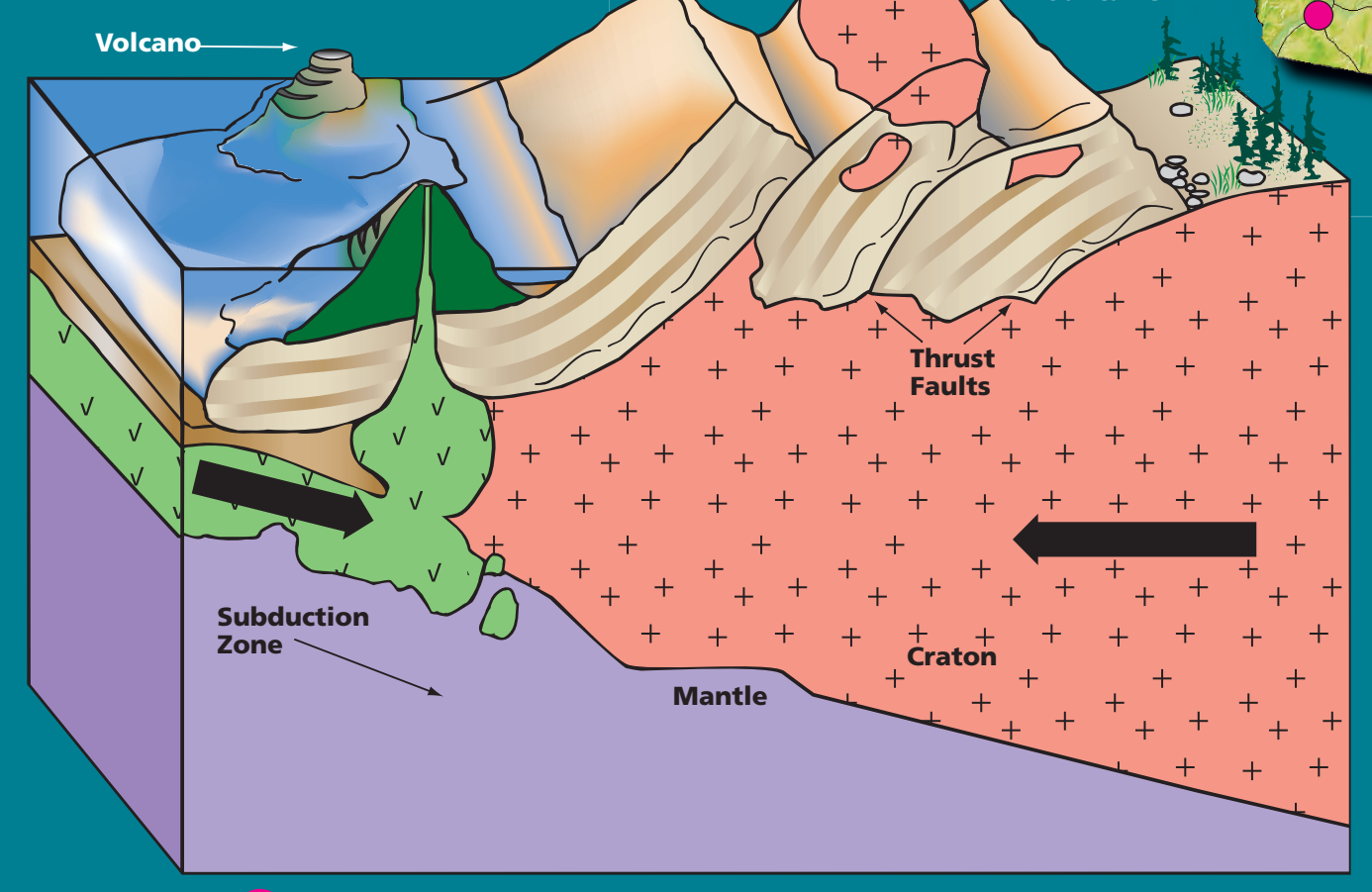
### WHY MOUNTAINS? THE BIG CRUNCH



185 MILLION YEARS AGO

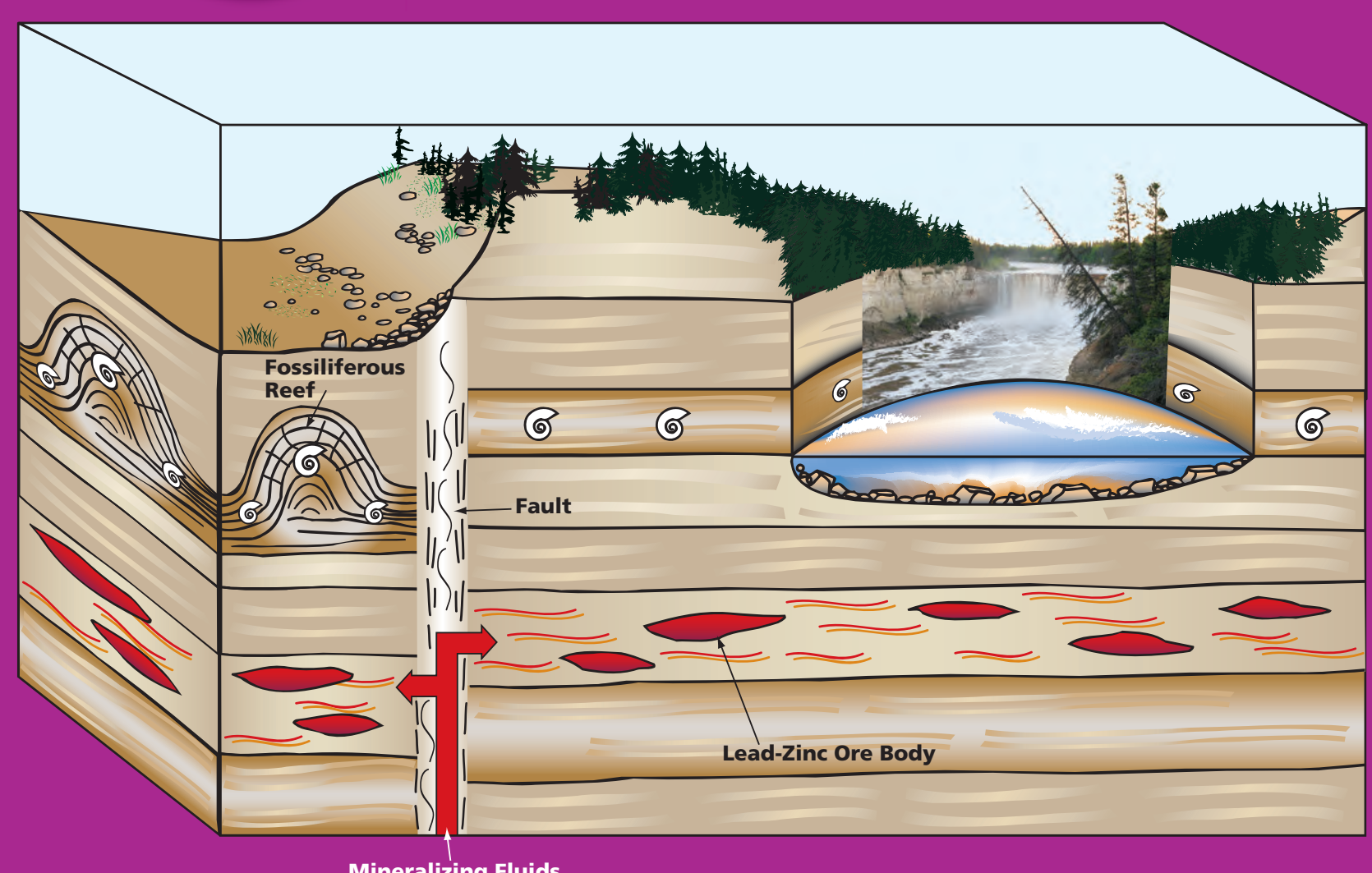
Mountain building has been taking place for about 185 million years.

The force of colliding continents pushed the layers of rock over each other. These folding and faulting processes occurred many times throughout history and formed the mountains we see today.



55 MILLION YEARS AGO

### FOSSILS, FALLS & FLUIDS



These sedimentary rocks are formed from ancient sea deposits. The fossils found in the rocks help geologists determine the age of the rocks.

Sedimentary rocks may be porous. These spaces allow metal-rich fluids to migrate through the rock and deposit the metallic minerals.

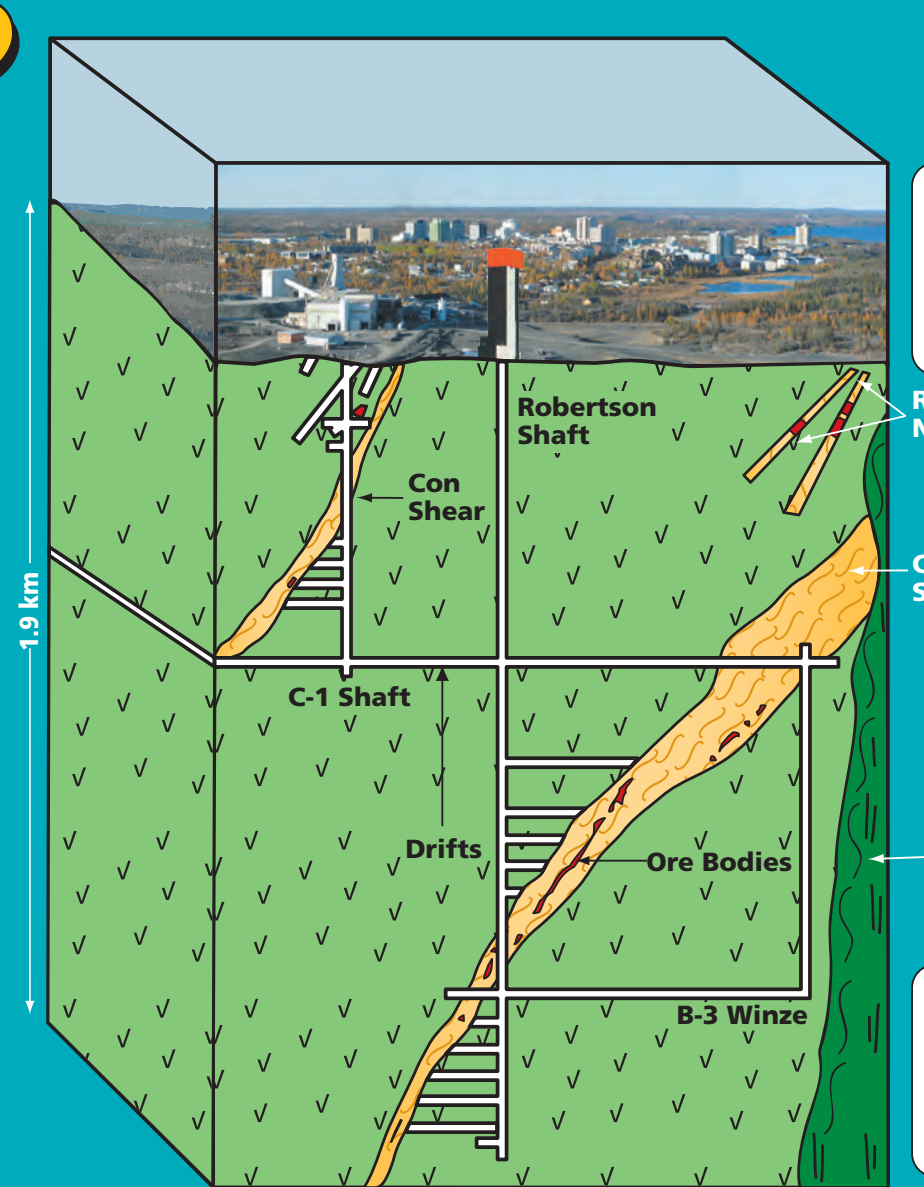
Coal deposits are formed from plant remains that have been subjected to pressure and temperature when buried at depth beneath the surface.

Sedimentary rocks are softer and more easily eroded than volcanic or granitic rocks. Water, wind and ice have sculpted the beautiful landscapes and majestic waterfalls that we enjoy as NWT residents and that tourists come to visit.

### YELLOWKNIFE... BUILT ON GOLD

Gold was mined in Yellowknife from 1938 to 2003. In total 15,000,000 ounces of gold was produced from the Yellowknife area.

Typically found in shear zones and quartz veins, gold may occur as either visible gold, or combined with other sulphide minerals like arsenopyrite or pyrite (fool's gold).



#### LEGEND

- Oil/Ore (gold, diamonds, zinc & gas)
- Sedimentary Rocks
- Granitic Rocks
- Volcanic Rocks
- Mantle

#### ACKNOWLEDGEMENTS

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