

**STOPS**

**Access via Municipal Landfill**

- 1 War Eagle 490443E 6734179N
- 2 Anaconda/Rabbitsfoot 492165E 6734734N
- 492053E 6734743N
- 491978E 6734673N
- 491941E 6734679N
- 491978E 6734673N

**Access via Copper Belt Mining and Railway Theme Park**

- 3 Copper King 492201E 6733801N
- 4 Carlisle 492415E 6733672N

**Access via Fish Lake Road**

- 5 Fish Lake Road Lookout 491792E 6733207N
- 6 Reservoir Lake (showing and old workings) 490966E 6732185N
- 7 Pueblo 490417E 6732051N
- 7A Pueblo Monument 490469E 6731878N

**Access via Copper Haul Road North**

- 8 Till - McIntyre Marsh Viewing Platform 490505E 6731792N
- 9 Till - Haul Road 492171E 6727809N
- 10 McIntyre Creek Meltwater Channel 491806E 6728386N
- 11 Limestone Haul Road 492725E 6726665N
- 492513E 6726842N
- 12 Spring Creek 493142E 6726927N
- 13 Empress of India 493281E 6726709N

**Access via Copper Haul Road Central**

- 14 Graftor 493222E 6726095N
- 15 Best Chance 493414E 6726350N
- 16 Graftor Extension 493383E 6726302N
- 17 Granodiorite Outcrop 493525E 6726033N
- 18 Arctic Chief 493605E 6725078N
- 19 Whitepass Spur Line 494766E 6724182N

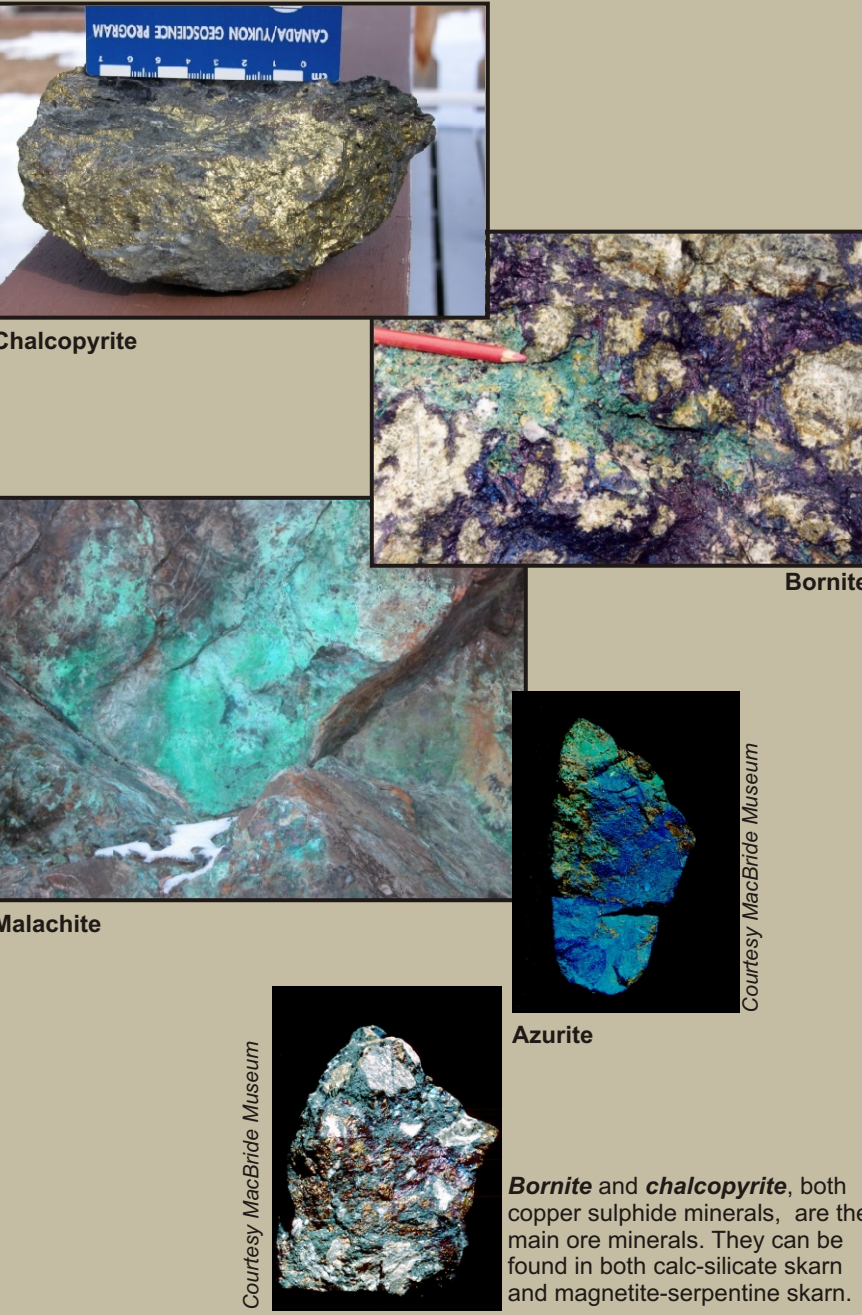
**Access via Mount Sima Road**

- 20 Little Chief Portal 496326E 6722824N
- 21 Little Chief Mill Site 496724E 6722803N
- 22 Big Chief 496485E 6722482N
- 23 Tailings and Revegetation 496929E 6722798N
- 24 Little Chief Pit 496741E 6722062N
- 25 Valerie (showing) 496654E 6721713N
- 26 Coal (stockpile from Coal Lake deposit) 498007E 6718950N

**Access via Fireweed Drive**

- 27 Miles Canyon Basalt 502242E 6716367N
- 28 Keewenaw 502145E 6715811N
- 29 Gem 502454E 6716089N
- 30 Black Cub South 502920E 6714905N
- 31 Cowley Park 505918E 6715477N

**Main Copper Minerals**



**How to use this map**

This publication is a field guide to the geology and mining history of the Whitehorse Copper Belt. It is designed to assist Whitehorse residents and visitors in exploring this fascinating area. Sheet 1 is a geological map with a list of suggested stops while sheet 2 provides specific descriptions of many mineral occurrences. Stops are numbered roughly from north to south on this map, and are grouped according to their geographic location and access routes on sheet 2. UTM coordinates (NAD 83, Zone 8) are listed for use with GPS.

The following roads provide access to the Copper Belt and to the Copper Haul Road. From north to south: via the Whitehorse Municipal Landfill, Fish Lake Road, Copper Belt Railway Theme Park (on the Alaska Highway, south of Fish Lake Road), Lobird Road, Mount Sima Road, and Fireweed Drive (Mary Lake) Cadet Camp Road. Access roads are driveable in summer unless marked otherwise, but can be in very rough condition.

**Use caution and common sense around old mine workings.** Avoid entering pits, shafts, adits, or any man-made openings; avoid going near steep cliffs and pit walls, as the ground may be unstable. Don't put yourself or others at risk. The Copper Belt offers a wealth of opportunities to discover the fascinating geology and mining history of this area. Please be respectful and cautious so that we can continue to enjoy our mining legacy and the wonderful rocks, minerals and landforms of the Whitehorse Copper Belt.

Copies of this and other Yukon Geological Survey publications can be obtained from Geoscience Information Sales and c/o Whitehorse Mining Recorder, Box 2703 (K102), Whitehorse, Yukon, Y1A 2C6; Phone 867-667-5200; Fax 867-667-5150; Email: geosales@gov.yk.ca. Visit our website at geology.gov.yk.ca.

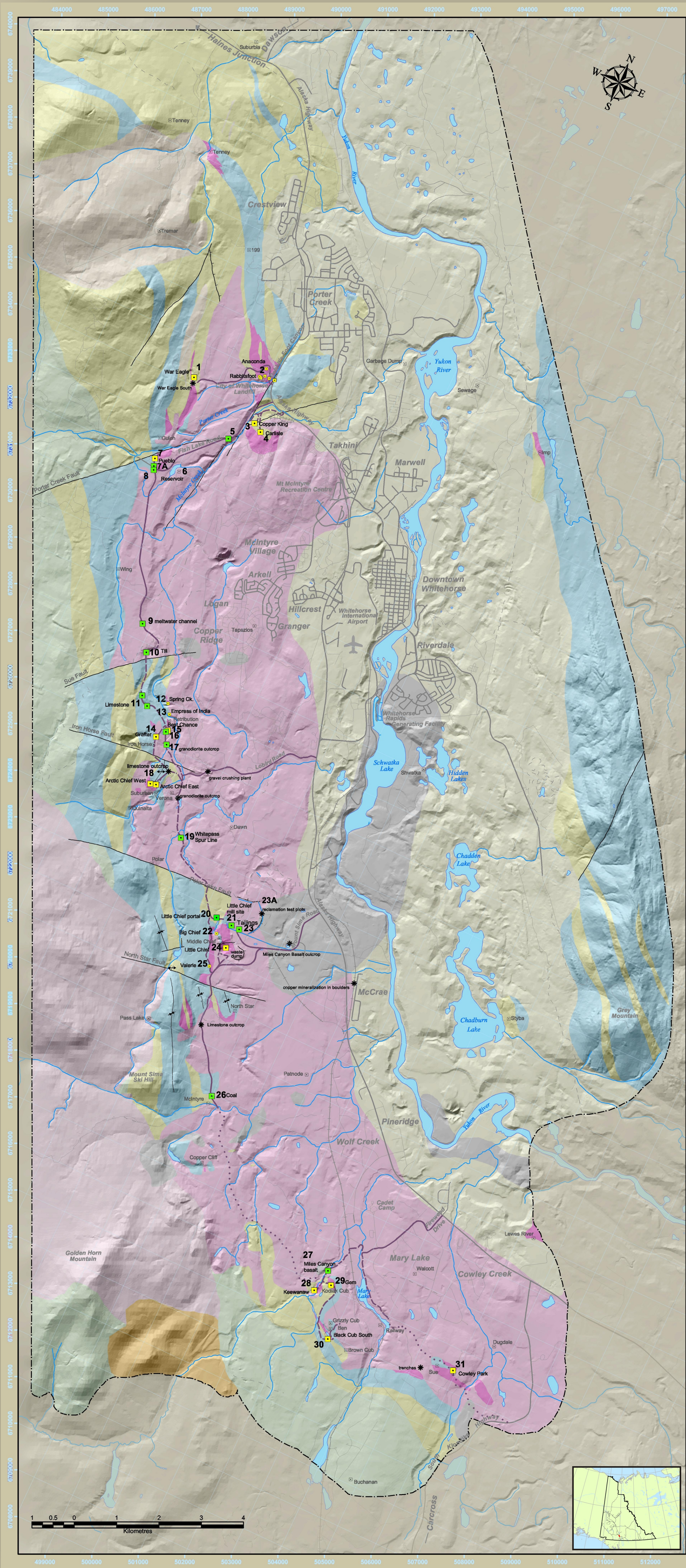
**Data Sources**

- Geology - Hart, C.J.R., 1996. Yukon Geological Survey, unpublished.
- Mineral Occurrences - Deklerk, R. (compiler), 2003. Yukon MINFILE 2003 - A database of mineral occurrences. Yukon Geological Survey, CD-ROM.

**References and Further Reading**

- (1) CRAIG, D.B. and CRAIG, J.E., 1997. *Assisted revegetation of Fine-Grained Tailings at Whitehorse Copper Mine, 1994-1996: A Pilot Project*. In: LeBarge W.P. and Roots C.F. (eds), 1997. *Yukon Quaternary Geology Volume 2*, Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, p.49-60.
- (2) DOBROWOLSKY, H. and INGRAM, R., 1993. *A History of the Whitehorse Copper Belt*. Open File 1993-1 (0), Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada.
- (3) HART, C.J.R. and RADLOFF, J.K., 1990. *Geology of Whitehorse, Alligator Lake, Fenwick Creek, Carcross and part of Robinson Map areas 105D/11, 6, 3, 2 & 7*, Open File 1990-4, Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada.
- (4) MACKAY, G., DIMENT, R. and FALKNER, J., Mackay, Falkner and Associates 1993. *Whitehorse Copper Belt: A Simplified Technical History*, Open File 1993-2 (1), Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada.
- (5) TENNEY, D., 1981. *The Whitehorse Copper Belt: Mining, Exploration and Geology (1967-1980)*, Bulletin 1, Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada.
- (6) TURNER, R.J.W., MOUGEOT, C.M., ROOTS, C.F., CLAGUE, J.J. and FRANKLIN, R., 2003. *Geoscape Whitehorse - geoscience for a Yukon community*, Geological Survey of Canada, Miscellaneous Report 82.
- (7) WATSON, P.H., 1984. *The Whitehorse Copper Belt - A Compilation*, Exploration and Geological Services Division, Indian and Northern Affairs Canada, Open File 1984-1, 1:25 000 scale.
- (8) YUKON GEOLOGICAL SURVEY, 2004. *Geoscape Whitehorse - geoscience for a Yukon community*, Whitehorse Copper Belt. Unpublished pamphlet.
- (9) Yukon MINFILE, 2003. Yukon Geological Survey, CD-ROM.

\*denotes non-specialized publications intended for the general public. All publications available from the Yukon Geological Survey, Geoscience and Information Sales, c/o Whitehorse Mining Recorder, Room 102 - 200 Main St., Box 2703 (K102), Whitehorse, YT, Y1A 2C6. Phone (867) 667-5200; Fax (867) 667-5150; Email: geosales@gov.yk.ca. Visit our website at geology.gov.yk.ca.



**Geology**

- Quaternary**
  - Glacial sediments: loose deposits of silt, sand and cobbles deposited by the melting ice that occupied the river valley about 12,000 years ago
- Tertiary**
  - Miles Canyon Basalt: dark, silica-poor volcanic rock that erupted repeatedly between 15 and 9 million years ago
  - Rhyolite: a silica-rich volcanic rock that erupted 60 million years ago
- Cretaceous**
  - Skarn: a calc-silicate rock type produced by the intrusion of the molten granodiorite into limestone, and other sedimentary rocks. This rock type hosts the copper deposits.
  - Granite: a small body of silica-rich magmatic rock, about 109 million years old
  - Granite: a body of silica-rich magmatic rock, called the Mt McIntyre Pluton, about 109 million years old
  - Granodiorite: a large body of magmatic rock composed of light and dark minerals, with salt and pepper texture, that was emplaced and cooled about 116 million years ago. This body of rock is called the Whitehorse Pluton. See stop 17.
- Jurassic**
  - Laberge Group sedimentary rocks: fine mudstone to coarse sandstone and conglomerates
- Triassic**
  - Mandanna sedimentary rocks: fine mudstone to dirty sandstone commonly green and red
  - Hancock limestone: lime-rich sedimentary rock originally formed in warm shallow ocean water. See stop 11.

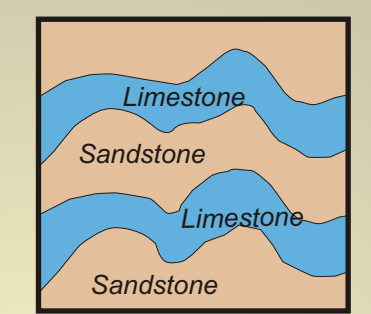
**Geological Symbols**

- Point of geological interest
- copper deposit
- copper showing
- other mineral occurrences
- note
- anticline
- syncline
- fault
- limit of mapping

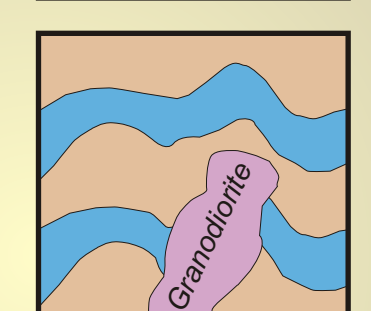
**Infrastructure**

- Primary road
  - secondary road
  - trail
  - railway (including defunct spurlines)
- Access Roads to Copper Belt**
- good road
  - rough road
  - not passable by car

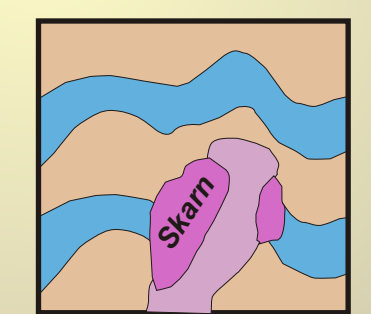
**Time 1:** tilting and folding of sedimentary rocks



**Time 2:** Intrusion of granodiorite magma into sedimentary rocks

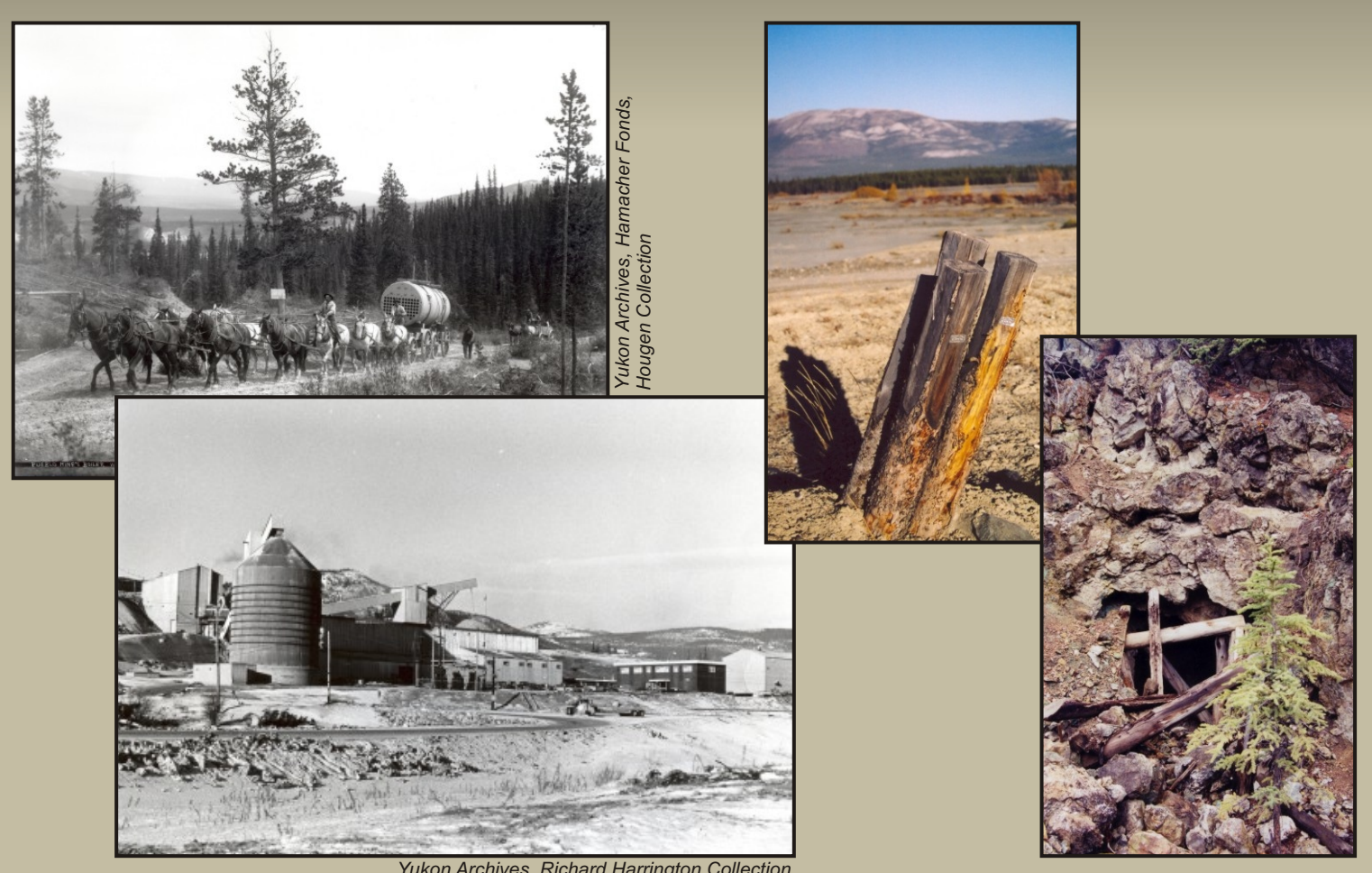
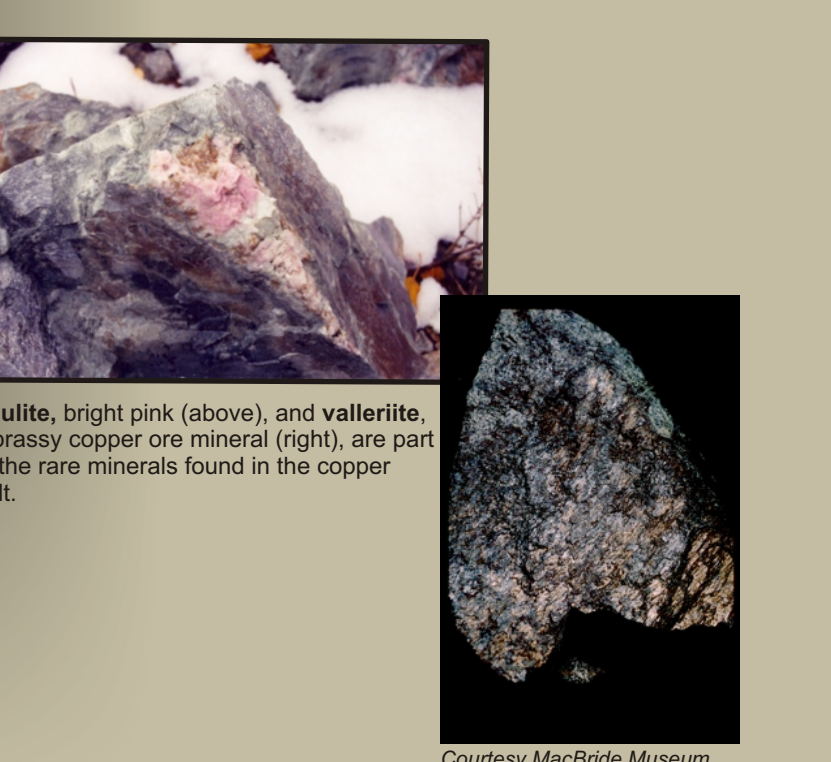


**Time 3:** interaction between hot magma and limestone produces skarn deposit



**FORMATION OF SKARN DEPOSIT CROSS-SECTION VIEW**

Scale 1:50 000  
 North American Datum 1983  
 Transverse Mercator Projection  
 ONE THOUSAND METRE  
 Universal Transverse Mercator Grid  
 ZONE 8



YGS Open File 2004-15  
**THE WHITEHORSE COPPER BELT, YUKON**  
 An Annotated Geology Map  
 Sheet 1 of 2  
 Compiled by Danièle Héon  
 April 2004

with contributions by:  
 Jeff Bond, George Gilbert, Dave Tenney,  
 Forest Pearson, Robert Siroshin and Amy Stuart  
**Yukon**  
 Energy, Mines and Resources