

OPEN FILE / DOSSIER PUBLIC 2571
GEOLOGY

PRELIMINARY MAP OF THE GEOLOGICAL SETTING OF THE RUTTAN Cu-Zn DEPOSIT, RUSTY LAKE BELT MANITOBA

Scale 1:50,000 - Échelle 1:50 000
Universal Transverse Mercator Projection
Projetion Transverse Universelle de Mercator



SYMBOLS

- Area of Outcrop
- Geological boundary (defined, approximate)
- Fault Trace: no kinematic information
- Reverse Fault (dipth on hangingwall)
- Bedding: inclined, tops known, unknown, vertical
- Planes top unknown, known
- Flow contact, top unknown, known
- Igneous layering
- Foliation, first, second, shear
- Dextral shear
- Sinistral shear
- Stretching lineation measured on foliation plane
- Mineral lineation: stretching, extensional
- Plunge of minor Z asymmetrical fold
- Road, trail
- Buildings
- Limit of Ruttan Open Pit
- Ruttan Mine headframe
- Dikehole collar, azimuth

- ### PROTEROZOIC
- POST-RUTTAN INTRUSIVE ROCKS, INTRUSIONS OF UNKNOWN AGE**
- 15 Breckled Lake Pluton intrusion breccia
 - 14a Contact Lake Pluton intrusion breccia
 - 13 Quartz-plagioclase porphyry
 - 12 Feldspar porphyry
 - 11 Diorite
- RUTTAN GROUP**
- Highly altered mafic rocks of unknown origin
 - a) amygdaloid
 - b) breccia
- Other units:**
- 8 Powder Magmatic Formation
 - 7a Rhyolite tuff and interlayered chemical sediment with disseminated pyroxene, pyrite, chlorophyllite
 - 7c Fine grained quartz-feldspathic rocks mostly derived from felsic volcanic rocks
 - 6 Plagioclase-phryic andesite
 - 5 Aphyric andesite: gas cavities
 - 4 Microcline rhyolite
 - 3 Intermediate volcanoclastic rocks
 - 2 Pyroxene-phryic basalt
 - 1 Mine basalt: aphyric, pillowed (p), massive

LEGEND

- ### HYDROTHERMALLY ALTERED ROCKS
- H Amphibole blastesis: amphibole + garnet
 - G Sericitization
 - F Microcline-Quartz
 - E Subhalation
 - D Fe-Mg metasomatism
 - C Silicification
 - B Epithermalization
 - A Calc-alkalite

Pluton boundaries beneath tailings pond defined utilizing diluvion and mapping by Steeves and Lamb, 1972

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BREHAUT LAKE

RUTTAN LAKE

VOL FAULT

DDH LAKE

RUTTAN MINE

NORTH WALL SHEAR

Steeves and Lamb, 1972

Limit of 1991 mapping

Tailings Pond

Steeves and Lamb, 1972

Limit of 1991 mapping

DESCRIPTIVE NOTES

INTRODUCTION
A geological mapping program was initiated by the Geological Survey of Canada in 1987 to define the geological setting of the Ruttan Cu-Zn deposit. The program was part of a larger project to map the Rusty Lake Belt. The Ruttan deposit is a large, open-pit, low-grade Cu-Zn deposit. It is situated in the Rusty Lake Belt, which is a major mineral province in Manitoba. The deposit is hosted by a complex sequence of Proterozoic rocks. The main host rock is a highly altered mafic rock of unknown origin. Other units include a quartz-plagioclase porphyry, a Feldspar porphyry, and a diorite. The deposit is also associated with a number of hydrothermal alteration zones, including an amphibole blastesis zone, a sericitization zone, and a microcline-quartz zone. The deposit is situated in the Rusty Lake Belt, which is a major mineral province in Manitoba. The deposit is hosted by a complex sequence of Proterozoic rocks. The main host rock is a highly altered mafic rock of unknown origin. Other units include a quartz-plagioclase porphyry, a Feldspar porphyry, and a diorite. The deposit is also associated with a number of hydrothermal alteration zones, including an amphibole blastesis zone, a sericitization zone, and a microcline-quartz zone.

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ALTERATION

The alteration pattern mapped and interpreted in this map is a hydrothermal alteration pattern which includes amphibole blastesis, sericitization, microcline-quartz, and other alteration zones. The alteration is associated with the Ruttan deposit and is characteristic of the Rusty Lake Belt. The alteration is hosted by a complex sequence of Proterozoic rocks. The main host rock is a highly altered mafic rock of unknown origin. Other units include a quartz-plagioclase porphyry, a Feldspar porphyry, and a diorite. The alteration is also associated with a number of hydrothermal alteration zones, including an amphibole blastesis zone, a sericitization zone, and a microcline-quartz zone. The alteration is situated in the Rusty Lake Belt, which is a major mineral province in Manitoba. The deposit is hosted by a complex sequence of Proterozoic rocks. The main host rock is a highly altered mafic rock of unknown origin. Other units include a quartz-plagioclase porphyry, a Feldspar porphyry, and a diorite. The deposit is also associated with a number of hydrothermal alteration zones, including an amphibole blastesis zone, a sericitization zone, and a microcline-quartz zone.

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