

COPPERMINE PROJECT

MAP SHEETS 86N, 86O

PROJECT OVERVIEW:

A joint venture syndicate was formed to cover a regional exploration program, more fully described as the Coppermine Project. The program will explore for volcanic/sedimentary hosted copper deposits in the Coppermine district, Coppermine Mountain area or the Northwest Territories more specifically the area within map sheets 86N and 86O.

Regionally, the area was the focus of a large staking rush and of considerable exploration in the late 1960's. Considerable literature is available on the geology and mineralization in the area, including assessment reports covering many of the prospects. One property acquired by the Coppermine Project was brought to our attention by a prospector who worked in the area during the late 1960's and was particularly interested in a showing then discovered which has not been found referenced in any literature.

INITIAL PROGRAM

This is a highly mineralized district and should be explored as such. The intention is to mount a regional exploration program over the prospective ground on map sheets 86N and 86O, for volcanic/sedimentary hosted copper deposits, with initial property scale exploration ongoing on the existing claims on map sheets 86O/5 and 86N/8. Landsat TM image analysis is expected to be helpful in the regional program, particularly for identification of structures critical to controlling mineralization.

This introductory summary indicates the potential of the property and shows the extent of mineralization in the area. The initial program will include a review and detailed study of assessment and other reports covering the area and a compilation of existing data, both regionally and at a property scale. Landsat TM image analysis will be done and used to assist in identifying prospective areas. A program of ground work is then scheduled to ground checking the areas, with geological mapping, trenching and sampling.

LITERATURE REVIEW - SUMMARY:

A review of literature, combined with discussions with various people familiar with the area has suggested that:

- 1) The period of activity in the late 1960's coincided with the period for which exploration incentive grants were available in the Northwest Territories and the rise in the price of copper in 1966 to \$0.42 US. Exploration slowed considerably due to the cancellation of these grants and the beginning of the Highland Valley copper discoveries

- 2) Exploration was generally restricted to the area centered about the 47 Zone deposit, since the airstrip was used as a drop off point. For logistic reasons, most of the work was done within helicopter range of the airstrip. The favorable geologic area appears to extend past the limits of previous exploration.
- 3) A lack of knowledge of the geologic models, combined with a short field season, resulted in less than satisfactory work in many cases.
- 4) Economics of working in the north plus advancements in underground mining techniques since the 1960's have improved significantly.
- 5) A high grade copper concentrate could be achieved by chalcocite ore which may be attractive to producers of chalcopyrite concentrates in order to increase their copper content and provide them a more sellable product. The outcome of this is that 'local' sales of a chalcocite con may be available, which would benefit the economics of an operation considerably.
- 6) Reserves are known on several properties in the area. A number of deposits could be processed at a central mill, allowing the smaller tonnage, high grade deposits to be profitably mined. Initial contact has been made with Coppermine River Limited, owner of the 47 Zone (Wreck Lake) deposit which has drill proven reserves of 4.16 million tons @ 2.96% Cu. They are approachable as to participation with other parties. In addition, the June deposit (1 million tons @ 2.5% Cu) occurs on Inuit owned land and might be exploited through a partnership with the Inuit.

GENERAL GEOLOGY SUMMARY:

The area is underlain by gently north dipping basalts and interbedded sandstones and shales of the Coppermine River Group. The Coppermine River Group forms a belt roughly 20 miles wide and over 75 miles from west to east.

Mineralization occurs in a variety of settings (Kindle, 1972) and belongs to a Volcanic Redbed Copper model, as described by Kirkham, 1996 and shown on the attached section. The Michigan Copper/Keweenaw Peninsula deposits belong to this model, as do the copper occurrences in the Natkusiak basalts on Victoria Island which are currently being explored. Most of the known reserves in the Coppermine area occur as breccia zones and shear veins along faults, with copper occurring dominantly as chalcocite in quartz-carbonate veins and interstitial to basalt breccia fragments. Chalcocite also occurs filling vesicles in amygdaloidal basalt tops, and as replacements in cherty interbeds between basalt flows. Native copper occurs in basalts and in interbedded and overlying sedimentary units, and copper sulfides also occur disseminated in diabase and gabbroic dykes cutting the volcanic sequence. As shown on the attached section of the 47 zone, the proximity to structure is critical, and low grade copper in amygdaloidal flow tops, may be indicative of nearby high grade, structurally controlled mineralization.

Regionally, the Coppermine River Group overlies sediments of the Hornby Bay Group, and is in turn overlain by sediments of the Rae Group. The Rae Group sediments are of interest for Redbed-type Copper Deposits, while the sediments of the Hornby Bay Group are currently the focus of uranium exploration.

CLAIM OWNERSHIP:

The existing block of claims, as per **Attachment 2** was contract staked in early April 1997 by Canamera Explorations Inc., for the Coppermine Joint Venture of which Kettle River Resources Ltd. and New Nadina Explorations Limited are equal owners. The Coppermine JV is operated by Kettle River Resources Ltd.

The Coppermine JV is open to participation with a major company in the regional and/or property exploration programs

PROPERTY REVIEWS:

Numerous showings on the claims have been referenced. The most significance are described below:

South of Willow Lake:

1) Dick :

A 10 foot wide breccia zone, with basalt fragments cemented by quartz, calcite and chalcocite has been traced on surface for 3,200 feet. It was drilled with 11 short drill holes in the 1930's and 1940's over a strike length of 1,100 feet and to a depth of 100 feet. Indicated reserves are 90,000 tons at 8.78% Cu. The zone is open both on strike and at depth.

2) Husky

The Husky showing is situated about 3 miles northwest of the Dick. Chalcocite occurs in fractures in basalt is exposed in a zone for a length of about 200 feet. Grades of 4.85% Cu over 30 feet and 1% Cu over 22.3 feet have been returned from surface sampling of the zone.

Coppermine Mountain Area (South of Burnt Creek):

3) Vera

A chalcocite bearing shear zone, traceable for a strike length of 4,000 feet, contains 2-5% chalcocite over widths in the order of 6 or more feet. A 4 foot wide branch vein with 2-3% chalcocite occurs 100 feet east of the main shear

4) Cu, Tar

Four separate mineralized veins with known strike lengths of up to 1,500 feet and widths of 5 to 15 feet, occur about 1 mile east of the Vera showings. One of the veins (the No. 3 Lode) was partially drill tested in 1969, with 6 shallow holes over a strike length of 525 feet and at a depth of about 100 feet, returning a weighted average grade of 3.75% Cu over a true width of 8.1 feet. There has been minimal work on the other nearby veins. Chert beds, 3 to 15 feet thick, intercalated with the basalt flows and replaced by up to 10% chalcocite are also referenced in this area and are untested.

5) South Burnt Creek

The South Burnt Creek showing is situated south of the Vera, and consists of a vertical quartz-carbonate cemented breccia zone, at least 1,000 feet in strike, and containing 5-10% chalcocite. Four holes were drilled in 1957 indicating reserves of 20,000 tons at 9.1% Cu. The zone is open on strike and at depth.

Hornby Creek Area:

6) Alf:

The Alf "A zone" showing consists of an east-west trending brecciated shear, mineralized with chalcocite, cutting amygdaloidal flow top basalt which is also mineralized with chalcocite. The A zone dips at about 80° to the south, has been traced on surface for in excess of 2,000 feet and is open on strike. This may be the western continuation of Alex's showing. One grab sample from the A zone returned 30% Cu, 2.07 oz/t Ag while samples from trenching across 4 and 5 feet respectively returned 17.6% Cu and 13.5% Cu. Three short drill holes were drilled in 1968 to test the A zone, one which returned 1.8% Cu over 17 feet. This showing seems to fall into the category of one which was tested without being well understood geologically. Several other areas of copper mineralization are reported nearby, including Zone B which is 1,600 feet long, with 8% Cu over a 7 foot width in a northeast striking fault and is untested, plus numerous other areas of frost heaved mineralization, and a reference to disseminated native copper in amygdaloidal basalt.

7) Alex's showing

While working for the Northair Group in 1968, A. McPherson reports discovering a wide, east-west trending, mineralized fault zone late in the season. A series of small lakes and east-west flowing creeks appear to show the surface expression of this zone. The zone is generally recessive, but several small knolls of outcrop occur and are reported to show well mineralized amygdaloidal basalt and sheared basalt cut by abundant chalcocite fractures. Alex's opinion is that this zone has the potential to be up to 800 feet in width, and to extend for in excess of 1 mile in strike length. He worked on a number of the showings in the area and felt this to be the most significant

8) Kat:

Disseminated native copper occurs in a basalt flow to the east of the Alf showing, and southwest of Alex's showing. The mineralized basalt is exposed in a cliff 30 feet high, from which a sample assayed 1.3% Cu. Two drill holes tested the zone without encouragement, however as described above, a good understanding of the geologic model and structure is needed to fully assess the showing.

North of Burnt Creek:

9) Pickle Crow - North:

A vertical, northeast trending quartz-carbonate-chalcocite vein in sheared brecciated basalt has been traced by trenching and minor shallow drilling over a strike length in excess of 1,000 feet. The Hearne vein ranges in width from at least 6 feet, to possibly in excess of 17 feet, with 6-10% chalcocite.

10) Cu- Hoc Group:

Little work seems to have been done in the area to the east of the Pickle Crow showings, however at least three veins are known, in addition to the inferred eastern extension of the Hearne vein. The known veins range from 2 to 8 feet in width, and one vein can be traced at intervals over a strike length of nearly 10,000 feet. This area is also referenced as having native copper in amygdaloidal basalt

11) Jim:

Several typical quartz-carbonate-chalcocite veins occur in this area, which has had limited work. The No. 1 vein can be traced for a strike length of 400+ feet, and returned 7.25% Cu, 0.56 oz/t Ag over 3.6 feet from outcrop. Native silver occurs in the vein.

REFERENCES

Canadian Mineral Deposits Not Being Mined in 1986, MR 213.

Kindle, E.D., 1972.

Preliminary Report of the Copper Deposits, Coppermine River Area, District of Mackenzie, GSV Paper 70-49.

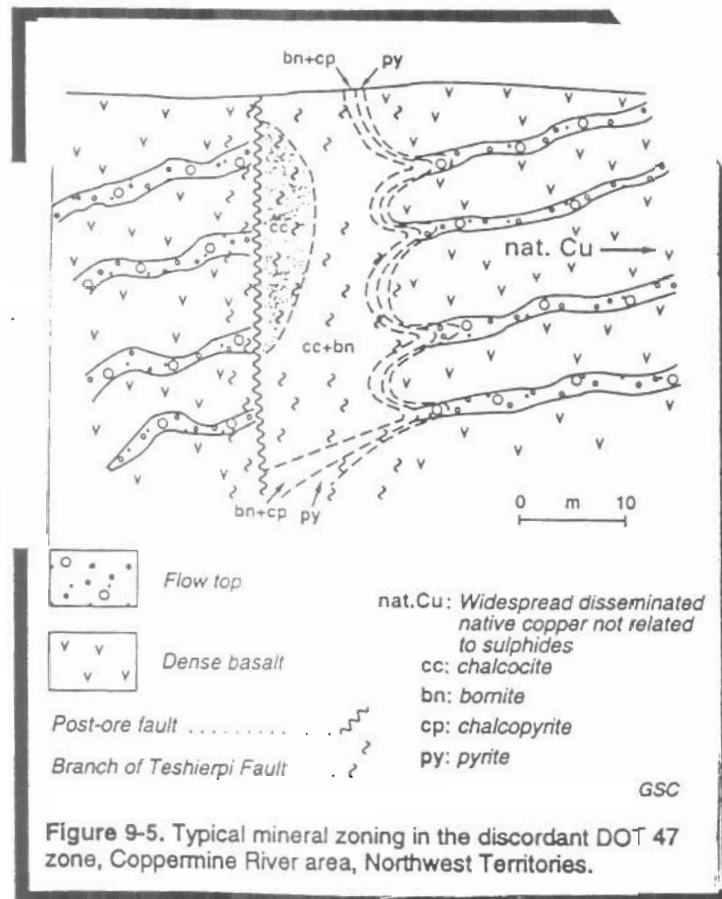
Kindle, E.D., 1972.

Classification and Description of Copper Deposits, Coppermine River Area, District of Mackenzie, GSC Bulletin 214

Kirkham, R.V., 1996.

Volcanic redbed copper; in Geology of Canadian Mineral Deposit types, (ed) O.R. Eckstrand, W.D. Sinclair, and R.I. Thorpe; Geological Survey of Canada, Geology of Canada, no. 8, p. 241-252.

Schematic Section of Volcanic Redbed-Type Copper Mineralization

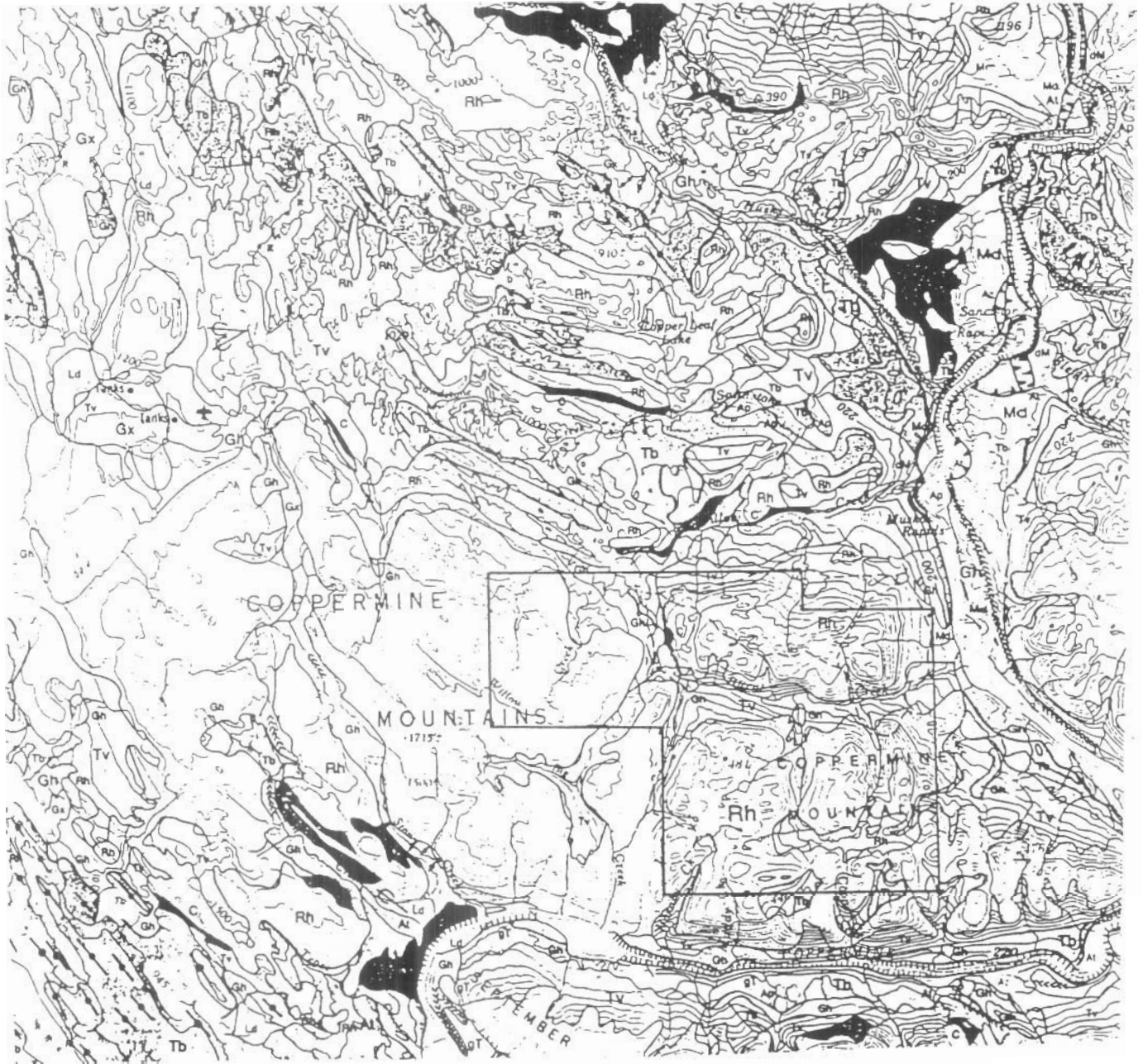


from Kirkham, R. V., 1996.

Volcanic redbed copper; in *Geology of Canadian Mineral Deposit types*, (ed) O.R. Eckstrand, W.D. Sinclair, and R.I. Thorpe; Geological Survey of Canada, *Geology of Canada*, no. 8, p. 241-252.

ATTACHMENT 2

LOCATION MAP - KR 2-19 CLAIMS
NTS 86O/5, 86N/8



SCALE 1:250,000

CLAIMS

18 claims: KR2 to KR19

Area covered: 40,803.5 acres

Regional Exploration Program
LOCATION MAP of area of interest
Map Sheets 86N & 86O

