## AM CLAIMS RECONNAISANCE REPORT

Coppermine Mountains, Coppermine, NWT.



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#### INTRODUCTION

The property was visited at the request of the owner Mr. Alex McPherson, and Mr. Ken Dawson, both of Vancouver B.C. The purpose of the trip was to relocate high grade copper showings discovered and trenched by Mr. McPherson in 1968. The exact location of these showings is not known but is referred to as being in line with the Alf and Kat showings which are shown on the government maps. The area is known as a highly mineralized, containing numerous copper deposits of chalcocite and native copper. Documentation of many of these showings can be found in the GSC files and other places.

#### ACCESS

The property is located about 65 km south of the arctic community of Coppermine, NWT, and was accessed by helicopter from Yellowknife. An existing camp on McGregor Lake was used as a base and a fuel cache at Mouse Lake was used for refueling. Mouse Lake is approximately 20 km south of the property.

#### TOPOGRAPHY AND VEGETATION

The topography of the claims is terraces of volcanic flow rocks 3 to 20 meters in height. These are hard basalts, lichen covered, rounded rock. The terrace benches are muskeg, grassy areas and lakes with an occasional rocky hummock and frost heaves of broken rock.

There are very few distinguishing landmarks in the terrain. There are ridges and lakes but no trees or other distinguishing features. Even the ridges are similar, round off by glaciation, and the lakes are mostly of a similar size and shape and although the maps show a few dozen lakes there are in fact many more than are shown on the maps.

#### RECONNAISANCE

The initial reconnaissance was made on foot as Mr. McPherson thought that he could relocate the showings from the general shape of the terrain. However, when this proved unsuccessful, aerial reconnaissance was tried from the helicopter. In all, approximately 15 km of foot traverses were done and 150 km of grid flying was done in an attempt to find the showings. Native copper chalcocite and malachite were all identified in flow tops in numerous locations during the foot traverses. None were of sufficient interest to warrant more than a brief look.

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#### **OBSERVATIONS**

The geology of the area is well documented in the literature with 40 known prospects shown on the government maps. The more interesting prospects have much in common. They are all located within the Coppermine Basalts and are associated either with the amygdaloidal flow tops of the individual flows or with secondary fault structures within the basalts. The copper mineralization is predominantly chalcocite or native copper.

This type of deposit is known in other parts of the world and is referred to by the GSC as "The Volcanic Redbed Copper" Model (Kirkham, 1966). The Michigan Copper on the Keweenaw Peninsula, the Natkusiak deposits on Victoria Island and the "Manto Copper" deposits along the coastal ranges of Chile are this type. The Chilean deposits hosted in andesite flows are controlled by faulting along which the copper is remobilized and enriched along the flowtops. The Michilla Mine just north of Antofagasta is the most productive of these "Manto Coppers" on the Chilean coast containing about 27M tonnes of 2.23% copper in an open pit configuration.

Descriptions by Mr. McPherson of the "Alex Prospect" were similar to the structurally controlled Chilean deposits favoring the junction of the east west strike faulting in the area with the north south crosscutting faults.

The mineralization of the Coppermine Mountain deposits is chalcocite and native copper and has the advantage of producing a high grade concentrate which would reduce shipping costs on any production which may be achieved.

The area searched is documented in the accompanying map and contains at least 40 prospects making it one of the more promising areas to be found anywhere. However most of these prospects are smallish and are predicted to contain only a few tens of millions of tonnes at most, making them less interesting individually, than a single porphyry copper property containing hundreds of millions of tonnes might be.

#### CONCULSION

The Coppermine Mountains received a good deal of attention in the late 1960's when the price of copper was US\$0.42/pound. Recent increases in the price of copper on the LME to US\$1.32/ pound makes this area once again very interesting. Grades of known prospects in the Coppermine Mountains vary from, 3% to 10% copper giving values of from US\$80/tonne (C\$104) to US\$264/tonne (C\$345) for rock in place. With "flow through" money available, the possibility of native participation, proximity to the community of Coppermine, all contribute to making this area worth another good look.

The document provided by Mr. McPherson entitled COPPERMINE PROJECT, MAP SHEETS 86N,860, (Author Unknown) summarizes nicely the important features of a regional project.

The shape and size of the known mineralization in the area makes the use of satellite imagery and even airborne geophysics of limited use in detecting actual mineralization. Structural controls are the most important localizing feature of the remobilized and enriched mineralization and therefore satellite and airborne photography should be used to define these structural controls. Other

parameters such as conductivity or thematic parameters are expected to be of limited value.

Geochemistry in an environment with copper in all the flow tops will likewise be of limited use. Anomalous background noise will mask the genuine response of whatever deposits might be there.

The most productive method for the discovery of economic deposits in the Coppermine Mountains is expected to be the use of prospectors supported by geological interpretation of the structures identified on airphotos. This method followed by trenching by hand or with a helicopter transportable mini-excavator would expose and define mineralization found by the prospecting crews. The problems associated with the thawing of permafrost would be minimized with the use of this small scale equipment.

#### RECOMENDATIONS

To overcome the size problem, the possibility of combining all these properties into one project should be considered. The mineralogy is the same in all the prospects and would not cause metallurgical problems. The prospects are all within a few kilometers of each other and could easily and practically be treated at a central mill. It is therefore recommended that a regional project be considered. It would be necessary to research, to search out and to develop all the prospects in the Coppermine Mountains at the same time. A block of 45 claims would be sufficient to cover all the known showings and to consolidate the efforts into one project.

### BUDGET

Phase I Research - 2 months geological review and reporting 40 days at \$500/day Staking of 48 claims Phase I total  Phase II		\$20,000 ? \$30,000 \$50,000
Exploration		
Mobilization of prospectors and geologicals	\$	15,000
Camp set up		20,000
Trenching sampling assaying	\$ \$	50,000
Drilling program say 5000 meters @ \$50	\$	250,000
Phase II total	\$	335,000
Project Total Phases I and II	\$	385,000

Respectfully submitted

Norm Tribe, P.Eng.