

PRODUCT

COPPER

PROVINCE OR  
TERRITORY

British Columbia

N.T.S. AREA 94 D/1

REF. CU 1

NAME OF PROPERTY

FRED

OBJECT LOCATED

UNCERTAINTY IN METERS

Fred 2 56°03.1' 126°15.9'  
Fred 11<sup>Lat.</sup> 56°03.0' Long. 126°15.3'Mining Division **Omineca** District **Cassiar**

County Township or Parish

Lot Concession or Range

Sec Tp. R.

OWNER OR OPERATOR AND ADDRESS

Northstar Copper Mines Ltd.

## DESCRIPTION OF DEPOSIT

The country rocks are Mesozoic intermediate and basic volcanics, probably belonging to the Hazelton Group, overlain by argillite, greywacke, and conglomerate that probably belongs to the Bowser Group; in the vicinity of the showings these rocks strike northerly and dip 45 to 65 degrees east. At the main showing the rocks are basic to intermediate pyroclastics and massive volcanics intercalated with lesser sedimentary rocks, some of which are copper-bearing siltstones; the mineralization is possibly syngenetic. The siltstones commonly are slightly graded, and contain crystal tuff in laminae mostly 2 to 5 millimetres thick. Veinlets of calcite, limonite, and malachite are common in the siltstone and tuff, and many are oriented parallel to bedding. Malachite also replaces feldspars adjacent to siltstones in crystal tuff and lapilli tuff. Rare aggregates of chalcocite, bornite, or rare native copper occur chiefly along contacts of very fine siltstones and tuff. Chalcocite of very fine grain may also occur in the opaque matrix of siltstone. Assays of 7 chip samples taken across the fine beds and into the adjacent lapilli tuffs over stratigraphic thicknesses of 2 to 4 feet assayed from 0.46 to 2.79% copper. Another showing, about 2,000 feet to the southeast, consists of highly fractured lathy basalt containing bornite, malachite, and covellite in small

Associated minerals or products of value

p.t.o. ....

## HISTORY OF EXPLORATION AND DEVELOPMENT

The property is located at the 5,200 foot elevation in the Cariboo Heart Range, about 1 mile north of Kaza Lake.

A total of 92 claims in the Fred, Bobo, Marg, Kiwi, Maori, etc. groups were held by R.M. Tait & associates who in July 1966 incorporated Northstar Copper Ltd.; the company name was changed later that same month to Northstar Copper Mines Ltd. Work during 1966-1967 included a geochemical survey which indicated four anomalous zones, trenching, and 2,091 feet of diamond drilling in 9 holes. One hole cut 60 feet grading 0.63% copper; another cut 44 feet grading 1.38% copper. Work during 1968 included further trenching, diamond drilling totalling 2,600 feet in 11 holes, and Cobra drilling totalling 200 feet in 50 short holes. In 1969 diamond drilling was done in 13 holes totalling 4,074 feet.

Bethlehem Copper Corporation Ltd. optioned the property in October 1972. Diamond drilling in 9 holes totalling 2,508 feet was done on the Mona group. During 1973 Bethlehem carried out geological mapping, a geochemical survey, and approximately 1,000 feet of diamond drilling in 8 holes.

Pechiney Development Limited held an option on the property in 1974 and carried out a geochemical soil survey (443 samples), trenching, and 398 feet of diamond drilling in 8 holes on Fred 2 and 4.

Mineral Resources Branch, Department of Energy, Mines and Resources, Ottawa.

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HISTORY OF PRODUCTION

REFERENCES

Reports of Minister of Mines, British Columbia: 1966, p. 82; 1967, p. 86; 1968, p. 118.

Geology, Exploration, and Mining; British Columbia Dept. of Mines: 1969, p. 102; 1970, p. 186; 1972, p. 478; 1973, p. 400; 1974, p. 293.

Mineral Development Sector; Corporation Files: "Northstar Copper Mines Ltd."

MAP REFERENCES

Map 962 A, McConnell Creek, (Geol.), Sc. 1":4 miles - Accomp. Memoir 251, Geol. Surv. of Canada, 1948.

Map 94 D, McConnell Creek, (Topo.), Sc. 1:250,000.

DESCRIPTION OF DEPOSIT (continued)

seams. A chip sample of the lower 20 feet of the exposure in the trench assayed: copper, 1.98 per cent.

REMARKS

Comp./Rev. By	DMacR	DMacR					
Date	5-74	10-76					