| PRODUCT *PRODUIT* | PROVINCE OR TERRITORY *PROVINCE OU TERRITOIRE* | N.T.S. AREA *RÉGION DU S.N.R.C.* | REF. *RÉF.* |
|---|---|---|---|
| COPPER | British Columbia | 92 H/7 | CU 1 |

NAME OF PROPERTY *NOM DE LA PROPRIÉTÉ* COPPER MOUNTAIN

OBJECT LOCATED *OBJET LOCALISÉ* – Main underground workings, Sunset claim (Lot 1077).

UNCERTAINTY *FACTEUR D'INCERTITUDE* 300 m

Lat. *Lat.* 49°19'30"

Long. *Long.* 120°31'20"

Mining Division *Division minière* Similkameen

District *District* Similkameen

County *Comté*

Township or Parish *Canton ou paroisse*

Lot *Lot*

Concession or Range *Concession ou rang*

Sec *Sect.*

Tp. *Ct.*

R. *R.*

OWNER OR OPERATOR/*PROPRIÉTAIRE OU EXPLOITANT*

Newmont Mines Limited

DESCRIPTION OF DEPOSIT/*DESCRIPTION DU GISEMENT*

The mineralization occurs chiefly in a northwesterly trending belt of Upper Triassic Nicola Group rocks, comprising mainly andesitic to basaltic agglomerate, tuff breccia, and tuff. The belt, which is approximately 1,100 m wide and 4,300 m long, is bounded on the southwest by diroite of the Copper Mountain stock and on the northeast by a complex of dioritic to syenitic porphyries and breccias known as the Lost Horse intrusions. This narrow belt of Nicola rocks is highly faulted and fractured, including a Main northwesterly striking fault and several northeasterly and northerly striking faults.

In the underground mine a zone of copper mineralization extended for 1,160 m along the contact of the Copper Mountain stock and reached a maximum width of 330 m. Within this zone the orebodies were concentrated at intersections of either the northwest trending diorite contact on the Main fault and its branches, or a series of steeply dipping Lost Horse porphyry dykes. In many places the orebody was segmented into pipe-like form due to their control by steep planar elements and division by a series of barren felsite dykes. The main contact orebody, which produced about half the underground ore, was mined over

see Card 2 ....

Associated minerals or products *Minéraux ou produits associés* – Gold, silver.

HISTORY OF EXPLORATION AND DEVELOPMENT
*HISTORIQUE DE L'EXPLORATION ET DE LA MISE EN VALEUR*

The property is located at about 4,000' elevation on Copper Mountain, on the east side of the Similkameen River 9 miles south of Princeton. Mining operations to 1957 included extensive underground development, mainly on the Sunrise and Helen H. Gardiner claims, and the development of 8 small open pits within an area about 1½ miles long in a northwesterly-southeasterly direction from the Princess May and Princess Maud claims on the northwest to the Oriole claim on the southeast.

The Sunset claim (Lot 1077), the first located on the mountain, was staked by R.A. Brown in 1892 and Crown-granted to Messrs. Brown and Averill in 1898. Subsequent staking to the west and northwest included the Sunrise, Vancouver, Copper Farm and Princess May claims, and to the southeast the Helen H. Gardiner, Oriole, and Humbolt claims.

Sunset Copper Company, Limited was incorporated in October 1899 to develop the Sunset claim. Work to 1901 included an inclined shaft to 200 feet and about 270 feet of crosscuts at the 100 and 150 foot levels. The adjacent claims were explored by short adits and shallow shafts by Messrs. Burr, Pringle, Saunders, Miller and others; Crown-grants were issued for these claims in the period 1901-1904.

South Yale Copper Company, Limited was incorporated in 1905, apparently by The British Columbia Copper Company, Limited, operator of a smelter at Greenwood, to acquire an option on the Sunset, Princess May and adjacent claims. The company diamond drilled the Princess May showing and drove 434 feet of adit on the Sunset claim before dropping the option later that year due to the then complex problem of smelting direct ores that contain a high percentage of alumina. Little work was done in subsequent years while the owners awaited improved transportation to the district.

The British Columbia Copper Company, Limited, incorporated in 1898 under the laws of West Virginia, re-acquired the Sunset property by gaining control of Sunset Copper Company in 1912; the Sunset Copper charter was surrendered that same year. Exploration of the Sunset property began in a small way in 1912.

Canada Copper Corporation, Limited was incorporated under the Laws of Virginia in March 1914 to acquire the properties

see Card 2 ....

Mineral Policy Sector, Department of Energy, Mines and Resources, Ottawa
*Secteur de la politique minérale, ministère de l'Énergie, des Mines et des Ressources, Ottawa*

## HISTORY OF PRODUCTION/*HISTORIQUE DE LA PRODUCTION*

During the period 1917 to 1962 inclusive, 34,775,180 tons of ore were milled or shipped from this property. From this ore 187,853 ounces of gold, 4,384,862 ounces of silver, and 613,223,307 pounds of copper were recovered.

## MAP REFERENCES/*RÉFÉRENCES CARTOGRAPHIQUES*

Map 300 A, Copper Mountain, (Geol.), Sc. 1":1,000' - accomp. Memoir 171).

Map 888 A, Princeton, (Geol.), Sc. 1":4 miles - accomp. Memoir 243.

Geology of Copper Mountain, Sc. 1":1,000', Fig. 2, Sheet B - accomp. Bulletin 59, B.C. Dept. of Mines, 1972.

Copper Mountain Camp, (Geol.), Sc. 1":1,250', Fig. 36, Geology, Exploration, and Mining, 1969, B.C. Dept. of Mines.

Mineral Claims at Copper Mountain, Sc. 1":2,000', Fig. 4, Bulletin 59, B.C. Dept. of Mines.

#Map 92 H/7, Princeton, (Topo.), Sc. 1:50,000.

## REMARKS/*REMARQUES*

| Comp./Rev. By *Comp./rév. par* | DMacR | DMacR | | | | | |
|---|---|---|---|---|---|---|---|
| Date *Date* | 01-81 | 11-83 | | | | | |

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see reverse Card 2 ....

BCI 92 H/SE - 1, 11, 24, 40

| PRODUCT *PRODUIT* | PROVINCE OR TERRITORY *PROVINCE OU TERRITOIRE* | N.T.S. AREA *RÉGION DU S.N.R.C.* | REF. *RÉF.* |
|---|---|---|---|
| COPPER | British Columbia | 92 H/7 | CU 1 |

NAME OF PROPERTY
*NOM DE LA PROPRIÉTÉ* COPPER MOUNTAIN

DESCRIPTION OF DEPOSIT/DESCRIPTION DU GISEMENT (continued)

widths of 9 to 38 m, along a length of 900 m and a maximum depth of 400 m. Ore minerals were bornite and chalcopyrite in roughly equal proportion, with most of the bornite occurring within 60 m of the stock contact. Mineralization penetrated only a meter or so into the diorite of the stock.

The Pit 1 orebody, on the Princess May claim (Lot 1829) about 750 m northwest of the underground mine, is a chalcopyrite zone 700 m long and up to 270 m wide with open pit ore extending to a maximum depth of 170 m. The bulk of the ore was emplaced along the Main fault in massive and fragmental volcanics. Sulphides occur mainly as fine disseminations of chalcopyrite and pyrite.

Pit 2 orebody, on the Princess Maude (Lot 1837) and Red Eagle (Lot 149) claims about 600 m northeast of Pit 1, lies along an indistinct and irregular contact of volcanic rocks with Lost Horse intrusives, both rock types being host to the ore. The orebody is 900 m long, 90 to 360 m wide and appears to have a maximum mineable depth of 170 m. The sulphides, mainly chalcopyrite and pyrite, occur as fine disseminations, fracture coatings, coarse blebs and veinlets.

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)
HISTORIQUE DE L'EXPLORATION ET DE LA MISE EN VALEUR

and assets of The British Columbia Copper Company, with the shares exchangeable on the basis of one Canada Copper share for 2 British Columbia Copper shares. Trenching and extensive diamond drilling during 1914-15 indicated some 12,000,000 tons at 1.74% Cu and 20¢ per ton gold-silver. Underground development began in 1916 and to the end of 1917 totalled about 15,000 feet of crosscuts and drifts, 6,000 feet of raising and 640 feet of sinking in 3 adits and two vertical shafts. A 50 ton per day pilot mill was operated from May to October 1917, milling about 3,000 tons of ore.

The 1917 decision to place the mine in production called for the construction of a 2,000 tons per day mill at a millsite 4 miles south of Princeton (later to become known as Allenby) and 9 miles north of the mine. The Kettle Valley Railway agreed to construct a 13 mile branch line from Princeton to the mine. Railway and mill construction begun in 1918 was slowed due to wartime conditions and strikes and the mill was not put into operation until October 20, 1920; the mill closed December 11, 1920 due to low (13¢ per pound) copper prices.

The Granby Consolidated Mining, Smelting and Power Company, Limited in 1922 increased its Capital Stock for the purpose of acquiring the properties of Canada Copper. Allenby Copper Company, Limited was incorporated May 17, 1923 with Granby holding 99.75% of the stock of the new company; Canada Copper's registration in B.C. was surrendered in 1924. Work towards reopening the mine and mill began in May 1925 and one section of the mill was put into operation in August; production reached 2,300 tons per day in 1926. Allenby Copper Company was merged with Granby on October 1, 1926 and Allenby was dissolved the following month. Mill capacity was increased to 2,500 tons per day in 1927. Operations were suspended in November 1930 due to low copper prices. Reopening work began in November 1936 but shipments from the mine didn't commence until June 1937. Operations were continuous except for a strike during the latter half of 1946.

Surface mining in small open pits began in 1952. Most of the pits were developed in orebodies also mined underground. By 1956 eight open pits had been developed and in that year supplied 60% of ore mined. The pits included No. 1, on the

continued reverse Card 2 ....

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)
HISTORIQUE DE L'EXPLORATION ET DE LA MISE EN VALEUR

Princess May claim, No. 2 on Princess Maud, Nos. 3 & 5 on Sunset, and No. 4 on the Oriole claim. The mine and Allenby concentrator closed April 29, 1957. The company name (Granby) was changed in 1959 to The Granby Mining Company Limited. From 1959 through 1962 the mine was leased by H-G MiningLtd. and small amounts of ore shipped. An extensive exploration program on the 79 Crown-granted claims comprising the property was begun by Granby in 1966. Magnetometer and induced potential surveys, percussion drilling in 509 holes totalling 79,174 feet, and diamond drilling in 52 holes totalling 20,094 feet was carried out during 1966-67.

The property was sold on January 1, 1968 to Newmont Mining Corporation. A subsidiary company, Similkameen Mining Company Limited, was incorporated in 1968 to continue the exploration program begun by Granby in 1966. During 1968 and 1969 drilling totalled 107,408 feet in 130 diamond drill holes and 114,321 feet in 394 percussion holes. The program was successful in outlining two areas of economic grade mineralization centered on Pit 1 and Pit 2 (see Fig. 36), with approximate maximum plan dimensions of 2,400 x 900 feet and 3,400 x 1,000 feet, respectively. A third zone, about the size of the Pit 1 zone, occurs in the area between Pit 5 and the Copper Mountain stock and was only partially explored.

Similkameen Mining Company Limited in 1970 merged with Ingerbelle Mines Limited, operator of the adjacent Ingerbelle property (92 H/7, Cu 7), under the name Similkameen Mining Company Limited. Reserves on Copper Mountain were reported in 1971 at 33,000,000 tons averaging 0.53% Cu (Northern Miner, Dec. 2, 1971). On January 1, 1977 the operations of Similkameen Mining Company Limited and Granduc Operating Company, both 100% owned by Newmont Mining Corporation, were consolidated under a new name, Newmont Mines Limited.

The decision was reached in August 1978 to prepare the Copper Mountain property for production, with mining to be phased in with the existing operation of the Ingerbelle open pit mine about a mile to the west, requiring the ore to be transported to the Ingerbelle mill on the west side of the Similkameen River. The installation of a new primary crusher, a 4,250 foot conveyor to the river and a 1,300 foot long suspension bridge to support a conveyor crossing of the river was completed in 1980. Ore deliveries to the mill from Pit No. 2 began on a limited scale in October 1980 but full production was not implemented until September 1981 when the Ingerbelle orebody was depleted. Reserves were reported at that time as follows:

continued .....

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HISTORY OF EXPLORATION AND DEVELOPMENT (continued)
HISTORIQUE DE L'EXPLORATION ET DE LA MISE EN VALEUR

Pit No. 2 69,000,000 tons at 0.35% Cu
Pit No. 3 111,000,000 tons at 0.39% Cu
Pit No. 1 30,000,000 tons at 0.41% Cu
(Northern Miner, August 20, 1981, p. B1).

Combined reserves were reported in 1982 at 157,854,000 tons averaging 0.39% Cu (Newmont Mining Corporation, 1982 AR).