

PRODUCT MOLYBDENUM
PRODUIT

PROVINCE OR PROVINCE OU
TERRITORY TERRITOIRE

British Columbia

N.T.S. AREA 82 M/1
RÉGION DU S.N.R.C.

REF. MO 1
RÉF.

NAME OF PROPERTY KNOX (JOAN) (MOUNT COPELAND)
NOM DE LA PROPRIÉTÉ

OBJECT LOCATED - Glacier zone.
OBJET LOCALISÉ

UNCERTAINTY 300 m Lat. 51°07'50" Long. 118°27'40"
FACTEUR D'INCERTITUDE Lat. Long.

Mining Division Revelstoke
Division minière

District
District

Kootenay

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

DESCRIPTION OF DEPOSIT/DESCRIPTION DU GISEMENT

The Copeland Ridge area is within the Shuswap metamorphic complex, here comprising a fringe zone of mantling metasedimentary rocks lying on the south flank of the Frenchman's Cap gneiss dome. The age range is considered broad, probably including both Proterozoic and Palaeozoic rocks.

The metasedimentary succession underlying Copeland Ridge comprises a series of mappable units of biotite schist and grey gneiss, white quartzite, calc-silicate gneiss and marble, and grey gneiss. Concordant bodies of nepheline syenite gneiss occur with the calc-silicate gneiss and marble unit. Lenses of syenite pegmatite or syenite aplite are fairly common along the northern border of the nepheline syenite unit and, because of their concentrations of molybdenite, are the focus of economic interest. These pegmatites and aplites have both sharp and gradational contacts with enclosing syenite gneisses. Characteristically they lie parallel to foliation but they cross it locally. Massive disseminated molybdenite occurs randomly in the aplite and pegmatite lenses and to a lesser extent in calc-silicate gneisses adjacent to the syenite gneiss contact.

see Card 2

Associated minerals or products
Minéraux ou produits associés

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

The property is located at 7,000' elevation on the north side of Copeland Ridge, between Hirem and Copeland creeks, 2 miles west of the summit of Mount Copeland and 15 miles northwest of Revelstoke.

The showings were discovered and staked as the Joan group of claims by E.H. Ewar & associates, of Peachland, in 1964. King Resources Company, of Denver, optioned the property in 1965 and during 1965-66 carried out geological mapping, sampling, and 1,037 feet of diamond drilling in 5 holes. The Joan group and adjacent claims were abandoned and relocated as the Knox group. During 1967 an adit was begun at the 6,700 foot elevation on the north slope of the ridge and driven southward; 20 feet of high-grade molybdenite was intersected. Diamond drilling from the adit was done in 4 holes totalling 600 feet. In 1968 an adit was collared at the 6,150 foot elevation on the south slope of the ridge and driven northerly for 6,000 feet to connect by a 165 foot raise with the north slope adit. About 1,000 feet of drifting and cross-cutting was done on the ore zone. Stream sediment and talus fines geochemical surveys were made of the claim area. The property was expanded to several hundred claims in the Knox, A.A., A.V.A., X.X., etc., groups. Construction of a 200 tons per day mill at the south slope adit began in 1969. Reserves at this time were estimated at 180,000 tons averaging 1.82% MoS₂.

A wholly owned subsidiary, KRC Operators Ltd., was incorporated in December 1969 and took over the operation of the property in January 1970. Mill construction was completed in February 1970. Mill tune up began on March 3, 1970 and production officially commenced on July 1, 1970.

Exploration and development work in the Glacier zone during the period 1969 to 1973 included approximately 26,000' of surface and underground diamond drilling, 7,500' of drifting & crosscutting, 2,600' of subdrifting, and 5,900' of raising and stope development. Mining operations were discontinued in April 1973 and production ceased in July 1973; the mine officially closed in October 1973. Almost all production during the life of the mine was from the Glacier zone. The mill was removed from the property in 1974.

HISTORY OF PRODUCTION/HISTORIQUE DE LA PRODUCTION

During the period 1970-1973, 188,591 tons of ore were milled at this property. From this ore 2,625,088 pounds of molybdenum were recovered.

REFERENCES/BIBLIOGRAPHIE

Fyles, James T.; The Jordan River Area Near Revelstoke, British Columbia; Bulletin No. 57, pp. 59-61, British Columbia Dept. of Mines, 1970.

Reports of Minister of Mines, British Columbia; 1965, p. 205; 1966, p. 228; 1967, p. 261; 1968, p. 262.

Geology, Exploration and Mining; British Columbia Dept. of Mines: 1969, p. 338; 1970, p. 465; 1971, p. 435; 1972, p. 84; 1973, pp. 104-113⁺.

Currie, K.L.; Notes on the Petrology of Nepheline Gneisses near Mount Copeland, British Columbia; Bulletin 265, Geol. Surv. of Canada, 1976.

King Resources Opens Mount Copeland Mine; Western Miner, Vol. 43, July 1970, pp. 50-53.

Mineral Policy Sector; Corporation Files: "King Resources Company".

MAP REFERENCES/RÉFÉRENCES CARTOGRAPHIQUES

Geological Map of the Jordan River Area, Sc. 1":2,000 ft. - accomp. Bulletin 57, B.C. Dept. of Mines.

Map 12-1964, Big Bend Map-Area, (Geol.), Sc. 1":4 miles - accomp. Paper 64-32, Geol. Surv. of Canada.

#Geological Map of the Nepheline gneisses near Mount Copeland, Sc. 1":2,000' - accomp. Bulletin 256, Geol. Surv. of Canada, 1976.

#Geology of Copeland Ridge and mineralized zones, Sc. 1":2,500', Fig. 9, Geology, Exploration, and Mining, 1973, p. 107.

Map 4404 G, Mount Revelstoke, (Aeromag.), Sc. 1":1 mile - (1965).

*Map M/1 W, Mount Revelstoke, (Topo.), Sc. 1:50,000.

REMARKS/REMARQUES

Comp./Rev. By Comp./rév. par	DMacR						
Date Date	06-80						

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- Card 2 -
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NAME OF PROPERTY
NOM DE LA PROPRIÉTÉ KNOX (JOAN) (MOUNT COPELAND)

DESCRIPTION OF DEPOSIT/DESCRIPTION DU GISEMENT (continued)

Four general zones of molybdenite mineralization are known, three of which are mainly in calc-silicate gneiss, and the fourth, known as the Glacier zone, is within syenite. The Glacier zone occurs in a digitation which is either a fold limb or a sill of syenite gneiss in the calc-silicate gneiss unit. The zone is a lens up to 10 feet thick of leucocratic aplite and pegmatite syenite. Biotite is the most common mafic mineral normally forming about 20 per cent of the syenites. Calcite is commonly present in small amounts and locally is prominent. Minor constituents of the rock include zircon, sphene, apatite, and magnetite. Some specimens also contain fluorite, some pyrite and/or pyrrhotite, and some molybdenite.

Molybdenite has a number of habits, it may be disseminated, form clumps and rosettes of crystals along hairline cracks, fill vugs, or occur as intergrowths with calcite, sericite, and K-feldspar. Large crystals of molybdenite contain inclusions of K-feldspar, calcite, and zircon. However, molybdenite also occurs in K-feldspar crystals and commonly is concentrated around K-feldspar megacrysts in the pegmatites. Pyrrhotite and pyrite are also distributed as disseminations, fracture fillings, and line or fill vugs.