

PRODUCT **MOLYBDENUM**  
 PRODUIT

PROVINCE OR TERRITORY **PROVINCE OU TERRITOIRE** British Columbia

N.T.S. AREA 82 K/12  
 RÉGION DU S.N.R.C.

REF. MO 1  
 RÉF.

NAME OF PROPERTY **TROUT LAKE (C.H.) (COPPER CHIEF)**  
 NOM DE LA PROPRIÉTÉ

OBJECT LOCATED - surface projection of the deposit.  
 OBJET LOCALISÉ

UNCERTAINTY 300 m Lat. 50°38'12" Long. 117°36'05"  
 FACTEUR D'INCERTITUDE Lat. Long.

Mining Division Revelstoke District Kootenay  
 Division minière District

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 Exploration of Canada Limited

DESCRIPTION OF DEPOSIT/DESCRIPTION DU GISEMENT

The deposit is associated with a small granodiorite stock of Upper Cretaceous age (76 Ma) which has variably altered the surrounding schists, argillites and marbles of the lower Paleozoic Lardeau Group to hornfelsic biotite schists and skarn. The intrusive is composed of a small stock and an intersecting network of northeast- and northwest-trending dykes at surface that coalesce downward into a larger stock. There are two main phases of intrusion, with an earlier quartz porphyritic granodiorite cut by an intra-mineral "quartz diorite" porphyry. A strong sub-vertical north-trending fault controls the distribution of the mineralized stockwork and displays post-mineral movement.

Molybdenite, accompanied by pyrite and pyrrhotite, is mainly present along the margins of veins in a well-developed quartz stockwork, but occasionally is strongly disseminated in microfractured intrusives. The stockwork is strongest in and around the contacts of the intrusive and its apophyses, and occurs over a vertical range of more than 1,000 m. As defined by the 0.10% MoS<sub>2</sub> contour, the main mineralized zone is up to 300 m long by 200 m wide.

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

The property is located at 5,000' elevation on the ridge between Wilkie (Trout) Creek and Trout Lake, 5 km west-southwest of Trout Lake village and some 50 km southeast of Revelstoke.

Although molybdenum mineralization was among the earliest discoveries, much of the exploration of this ground was related to a search for silver, lead, zinc and tungsten (see Lucky Boy and Copper Chief, 82 K/12, Ag 2 and Ag 3).

Molybdenum in quartz veins was first reported in 1898 when the Molybdenum claim was staked to the south of the Lucky Boy by T.R. Davie. The Prodigal claim was staked in the same vicinity. Open cutting was reported. The claims were subsequently abandoned.

Molybdenite showings were reported in 1902 on a group comprising the Copper Chief, Ruffled Grouse, and Willow Grouse claims. These showings were explored by open cutting in 1917 by the Copper Chief Mining Syndicate. The 4 claims and a fraction were owned at that time by J.W. Livingston.

No further activity with regard to the molybdenite showings was reported until 1969 when Cascade Molybdenum Mines Ltd. optioned the Lucky Boy-Copper Chief Crown-grants and about 30 surrounding located claims from Alan Marlow and Beulah Oakey. Work during 1969-1970 included geological mapping, bulldozer trenching, and 3,256 feet of diamond drilling in 7 holes on C.H., Annex, Lucky Jay, and Copper Chief Moly claims. The option was subsequently given up.

Newmont Mining Corporation of Canada Limited in 1975 optioned from Alan Marlow and Beulah Oakey the Lucky Boy and Copper Chief groups and the Annex, LB Fr., Lucky Jay 1-3, 6, 7, 9-11, Rover 2-7, Copper Chief Moly, Copper Chief Moly 1 and 2, and TL 1-3 located claims. Work during 1975 included geological mapping, a magnetometer survey over 2 line-kilometres, and a geochemical soil survey (874 samples) over 26 line-kilometres. Work during 1976 included further geochemical soil survey (97) samples, and 3,102 metres of diamond drilling in 9 holes on C.H. (Lot 4741), Lucky Jay 1, Copper Chief Moly and Annex claims.

Newmont changed its name in February 1977 to Newmont Exploration of Canada Limited. A joint venture agreement for further exploration was signed in 1977 between Newmont

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

(55%) as operator and Esso Minerals Canada (45%), a subsidiary of Imperial Oil Limited. A discovery hole drilled in 1977 indicated a sizable deposit of molybdenum. Deep diamond drilling in 1977-78 totalled 5,873 metres in 7 holes. A program of underground exploration begun in September 1979 included 2 km of adit and drifts at the 3,300' elevation, 22 000 metres of ring drilling in 87 holes, and bulk sampling; this work was completed in 1981. Preliminary drill-indicated reserves were placed at approximately 50,000,000 tonnes of 0.23% MoS<sub>2</sub> (CIM Bulletin, January 1983, p. 115).

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MAP REFERENCES/RÉFÉRENCES CARTOGRAPHIQUES

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Map 235 A, Lardeau Area, (Geol.), Sc. 1":4 miles - accomp.  
 Memoir 161, Geol. Surv. of Canada, 1930.

\*Map 82 K/12 E, Beaton, (Topo.), Sc. 1:50,000.

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Boyle, H.C. and Leitch, C.H.B.; Geology of the Trout Lake  
 Molybdenum Deposit; CIM Bulletin, January 1983,  
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REMARKS/REMARQUES

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