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British Columbia

N.T.S. AREA 104 I/1
RÉGION DU S.N.R.C.

REF. CU 2
RÉF.

NAME OF PROPERTY SMRB, JEFF (KUTCHO CREEK)
NOM DE LA PROPRIÉTÉ

OBJECT LOCATED - Main zone outcrop.
OBJET LOCALISÉ

UNCERTAINTY 500 m FACTEUR D'INCERTITUDE	Lat. 58°12'20"	Long. 128°21'30"
Mining Division Liard Division minière	District District	Cassiar
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 Kutcho Creek stratabound massive sulphide deposit occurs in a sequence of volcanic rocks of probable Mesozoic age ranging in composition from basalt to soda rhyolite. The rocks have been foliated, folded, and metamorphosed to lower greenschist facies. They are bounded on the north and south by major thrust faults. The major structure is an east-west trending anticlinorium, the northern limb of which contains a number of smaller folds.

The sulphides occur near the top of a 300-metre footwall unit of rhyolitic lapilli tuff which has been metamorphosed to sericite schist. The hangingwall rocks are sericite schist, dolomite, quartz feldspar porphyry, porphyritic basalt, rhyolite, and argillite with interbedded tuffs and epiclastic rocks. A discordant intrusion of gabbroic composition has intruded the hangingwall.

Massive pyrite containing chalcopyrite and sphalerite forms an elongate lens which is part of an extensive pyritic unit. Remobilized chalcopyrite, bornite, chalcocite, and tetrahedrite occur above the main massive sulphide lens and in dolomitic lenses within massive sulphide.

Associated minerals or products - Zinc, silver, gold.
Minéraux ou produits associés

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

The property is located at approximately 1620 m elevation near the head of Kutcho Creek, some 100 km east-southeast of Dease Lake.

Sumac Mines Ltd. was incorporated in August 1971 as a joint venture company by four Japanese companies, Sumitomo Metal Mining Canada Ltd., Sumitomo Corp., Marubeni Corp., and C. Itoh & Co. (Canada) Ltd. Dr. T. Rodgers and C.J. Sullivan, prospecting on behalf of themselves and Sumac Mines, discovered the showings in 1972 and staked the SMRB 1-16 claims. Work by Sumac during the period 1973-78 inclusive included geological mapping, induced potential, magnetometer and electromagnetic surveys, geochemical soil surveys, and some 10,000 metres of diamond drilling in 49 holes. Reserves on the SMRB group were reported at 10,000,000 tons, no grade stated (Northern Miner, Sept. 28, 1978).

The area surrounding the SMRB group was staked by Imperial Oil Limited as the Jeff 1-138 claims in 1973. Additional staking was done in the Jenn, June, Ryan, Kris, PY, Lin, Jet, Bruin, and Wes groups for a total of about 400 claims. Exploration work during the period 1973-78 inclusive included electromagnetic, magnetometer and gravity surveys, a geochemical soil and silt survey, and 19,940 metres of diamond drilling in 90 holes. The Jeff group was transferred to Esso Minerals Canada, a division of Esso Resources Canada Limited on its incorporation on January 1, 1978. Drill-indicated reserves on the Jeff group were reported as 6,000,000 tonnes at 4.33% Zn, 2.38% Cu, 44 g/mt Ag, and 0.4 g/mt Au (Imperial Oil Limited, 1979 Annual Report). Combined reserves in the deposit, which crosses the SMRB-Jeff boundary, were reported at 15.7 million tonnes at 1.69% Cu, 2.16% Zn, and 27.7 g/t Ag (Mining Magazine, June 1981, p. 439).

Work by Sumac in 1979-84 included geophysical surveys over 24.2 km, 8 048 m of diamond drilling in 45 holes, a 218 m crosscut adit driven for bulk sampling, and data collection for environmental studies. Estimated reserves on Sumac ground are approximately 11 000 000 tonnes at 1.68% Cu, 2.14% Zn, 25.23 g/mt Ag, 0.26 g/mt Au (Geological Fieldwork, 1982, p. 181, BCDM). In that same period work by Esso on the adjacent ground included geochemical rock chip surveys (362 samples) and 15 143 m of diamond drilling in 56 holes. Indi-

p.t.o.

cated mineable reserves on Esso ground were reported as 7 000 000 tonnes at 1.82% Cu, 2.70% Zn (Imperial Oil Form 10-K, Dec. 31/81). Combined Sumac-Esso reserves are reported as 17 000 000 tonnes at 1.62% Cu, 2.3% Zn, 0.06% Pb, 29.2 g/mt Ag, 0.3 g/mt Au (Mineral Exploration Review, 1984, p. 8, BCDM). In 1989, Homestake Mining Company purchased Esso's interest and in 1990 American Reserve Mining Corporation bought 60% of Homestake's interest. The whole deposit has an open pit mineable reserve of 13,900 tonnes of 1.75% Cu, 2.97% Zn, 29 grams per tonne Ag and 0.34 gram per tonne Au. In the Esso West lens, 1.5 miles to the west are 1,500,000 tonnes of 3.35% Cu, 5.59% Zn, 63 grams per tonne Ag and 0.56 gram per tonne Au. This tonnage is 1,400 feet below surface. (American Reserve 1989 Annual Report).

Geology, Exploration, and Mining; British Columbia Dept. of Mines: 1973, p. 510; 1974, pp. 343-348; 1975, pp. E 188, E 189, G 87-G 93; 1976, pp. E 189, E 190; 1977, pp. E 230-231; 1978, pp. E 260-261⁺.

Mineral Policy Sector; Corporation Files: "Sumitomo Metal Mining Canada Ltd."; "Sumac Mines Ltd."; "Imperial Oil Limited"; "Homestake Mining Company"; "American Reserve Mining Corporation".

Geological Fieldwork, British Columbia Dept. of Mines: 1975, p. 86; 1976, p. 75⁺⁺; 1977, p. 43; 1982, p. 179.

Geology in British Columbia; BCDM: 1976, p. 128.

Mineral Exploration Review; BCDM: 1984, p. 8; 1985, p. 9.

Exploration in British Columbia; BCDM: 1979, p. 287; 1980, p. 480; 1981, p. 84; 1982, p. 387; 1983, p. 532; 1984, p. 391.

MAP REFERENCES/RÉFÉRENCES CARTOGRAPHIQUES

Map 29-1962, Cry Lake, (Geol.), Sc. 1":4 miles, Geol. Surv. of Canada.

Kutcho Creek Deposits, Jeff-SMRB Claims, Sc. 1":2 miles, Fig. 36, Geology, Exploration, and Mining, 1974, British Columbia Dept. of Mines.

Kutcho Creek Map Area, (Geol.), Sc. 1 cm:0.65 km (approx.), Fig. G-38, Geology, Exploration, and Mining, British Columbia Dept. of Mines, 1975.

Kutcho Creek map-area, (Geol.), Sc. 1 cm:2 km, Geological Fieldwork, 1976, p. 74.

#Kutcho deposit, Fig. 54, Geology in British Columbia, 1976, p. 130.

#Kutcho Creek property, Fig. 62, Geological Fieldwork 1982, p. 179.

*Map 104 I/1, Tucho River, (Topo.), Sc. 1:50,000.

REMARKS/REMARQUES

Comp./Rev. By Comp./rév. par	DMacR	DMacR	JL				
Date Date	08-81	09-86	10-90				