

PRODUCT COPPER
PRODUIT

PROVINCE OR PROVINCE OU
TERRITORY TERRITOIRE

British Columbia

N.T.S. AREA 92 L/11
RÉGION DU S.N.R.C.

REF. CU 1
RÉF.

NAME OF PROPERTY
NOM DE LA PROPRIÉTÉ

ISLAND COPPER (BAY)

OBJECT LOCATED - open pit.
OBJET LOCALISÉ

UNCERTAINTY 300 m
FACTEUR D'INCERTITUDE

Lat. 50°36'00"

Long. 127°28'40"

Mining Division Nanaimo
Division minière

District
District

Rupert

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

Utah Mines Ltd.

DESCRIPTION OF DEPOSIT/DESCRIPTION DU GISEMENT

The deposit occurs within Lower Jurassic Bonanza volcanics, a subgroup of the Vancouver Group. The volcanics in the mine area are andesitic pyroclastic rocks with wide variations in texture. Bedding within the volcanics strikes between N70 to 80°W and dips 20 to 40° southwest. Ore zones are in the volcanics in the hanging wall and footwall of a quartz-feldspar porphyry dyke which strikes N70°W and dips approximately 60 degrees northeastward. Breccias with volcanic and intrusive fragments occur along the margins of the dyke. Although chalcopryrite and molybdenite occur in all rocks, ore-grade concentrations are predominantly within volcanic rocks and the marginal breccias.

The orebody may be divided into the hanging-wall and foot-wall ore zone. The hanging-wall zone is a roughly tabular body 60 to 180 metres wide and approximately 1,700 metres long, and continues essentially unchanged to a depth of 300 metres below the ground surface. The ore zone plunges deeper at both ends of the proposed pit. The footwall ore zone is in the footwall volcanic rocks adjacent to the porphyry dyke. A small amount of ore occurs within the dyke.

see Card 2

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

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

This property is located on the north shore of Rupert Inlet, 8 miles south of Port Hardy, near the northern end of Vancouver Island.

Local prospector Gordon Milbourne noted widespread occurrences of very small quantities of native copper and chalcopryrite in outcrops and road cuts throughout the area. Early in 1965 he discovered high-grade copper float about a mile northwest of the area of the main orebody and excavated several shallow pits which exposed mineralized rock in place. He subsequently staked the Bay group of claims to cover this showing and a geophysical anomaly to the southeast which had been located in a 1962 survey sponsored by the British Columbia Dept. of Mines.

Utah Construction & Mining Co. optioned the property in January 1966. Diamond drilling and trenching were carried out in the vicinity of Melbourne's original pits southwest of Bay Lake. To test this area the company drilled over 13,000 feet in relatively shallow holes in 1966 and 1967. A small orebody having plan dimensions of 200 feet by 300 feet was outlined. While this work was in progress a soil-sampling survey, geophysical surveys, and geological mapping of the 175 claims was carried out. The geochemical work outlined a large copper anomaly in soils, located more than a mile southeast of Melbourne's test pits. This anomaly, over what later became known as the Island Copper orebody, was tested initially in 1966 and low grade copper mineralization was indicated. Drilling to May 1969 was done in 128 holes totalling 116,783 feet. This work outlined 280,000,000 tons averaging 0.52% copper and 0.015% molybdenum (Utah Mines Ltd. Brochure). In 1968 a shaft was sunk about 225 feet and about 1,000 feet of drifts, crosscuts, and raises driven for bulk sampling. Authorization was given in June 1969 to develop an open pit and construct a 33,000 ton per day mill. Milling operations began in October 1971. The company name was changed in October 1971 to Utah International Inc. The property was subsequently transferred to a wholly owned Canadian subsidiary Utah Mines Ltd., which was registered in British Columbia in December 1971. The addition of 3 ball mills in the concentrator during 1973 raised the mill capacity to 38,000 tons per day.

see Card 2

HISTORY OF PRODUCTION/HISTORIQUE DE LA PRODUCTION

From the start of production in October 1971 until the end of 1974 a total of 32,292,483 tons of ore were milled. From this ore 132,340 ozs gold, 687,048 ozs silver, 264,776,935 lbs copper, and 2,592,334 lbs of molybdenum were recovered.

During the period 1975-78 inclusive 51,628,239 tonnes of ore were milled. From this ore 5 964.373 Kg of gold, 39 081.822 Kg silver, 194 873 949 Kg copper, and 3 340 116 Kg molybdenum were recovered. Rhenium recovery is confidential.

MAP REFERENCES/RÉFÉRENCES CARTOGRAPHIQUES

Map 4-1974, Alert Bay-Cape Scott, (Geol.), Sc. 1:250,000 - accomp. Paper 74-8.

#Geology of Coal Harbour-Port Hardy Area, Sc. 1":1.5 miles, Fig. 13, Report of Minister of Mines, 1968.

Geological Map of Island Copper Deposit, Sc. 1":850', Fig.31, Geology, Exploration and Mining, 1970.

Map 1738 G, Port McNeill, (Aeromag.), Sc. 1":1 mile (1963).

*Map 92 L/11, Port McNeill, (Topo.), Sc. 1:50,000.

Map 4-1974, Alert Bay-Cape Scott, (Geol.), Sc. 1:250,000 - accomp. GSC Paper 74-8, 1974.

REMARKS/REMARQUES

REFERENCES/BIBLIOGRAPHIE

Reports of Minister of Mines, British Columbia: 1966, p. 65; 1967, p. 68; 1968, pp. 84-88⁺.

Geology, Exploration and Mining; British Columbia Dept. of Mines: 1969, p. 204; 1971, p. 320; 1972, p. 293; 1973, p. 260; 1974, p. 214.

++Northcote, K.E.; Island Copper; Geology, Exploration and Mining in British Columbia, 1970, pp. 267-269, British Columbia Dept. of Mines.

Muller, J.E., Northcote, K.E., Carlisle, D.; Geology and Mineral Deposits of Alert-Cape Scott Map-Area, Vancouver Island, British Columbia; Paper 74-8, Geol. Surv. of Canada.

+++Cargill, D.G., Lamb, J., Young, M.J. and Rugg, E.S.; Island Copper; Porphyry Deposits of the Canadian Cordillera, The Canadian Institute of Mining and Metallurgy, Special Volume 15, pp. 206-218, 1976.

Northcote, K.E.; Island Copper; International Geological Congress, Guidebook, Field Excursion A09-C09, pp. 20-24, Canada, 1972.

Young, M.J. & Rugg, E.S.; Geology and Mineralization of the Island Copper Deposit; Western Miner, Vol. 44, No. 2, February 1971, pp. 31-40.

Island Copper Mine, Western Miner, Vol. 47, December 1974, pp. 11-24.

Mining Journal, March 19, 1971, p. 209.

Mineral Policy Sector; Corporation Files: "Utah International Inc."; "Utah Mines Ltd."; "General Electric Company".

Engineering and Mining Journal, (EMJ), Nov. 1981, p. 200.

Muller, J.E., Northcote, K.E., Carlisle, D.; Geology and Mineral Deposits of Alert Bay-Cape Scott Map-Area, Vancouver Island, British Columbia; Geol. Surv. Can. Paper 74-8, 1974.

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Date Date	07-81	09-82					

PRODUCT PRODUIT	COPPER	PROVINCE OR TERRITORY	PROVINCE OU TERRITOIRE	British Columbia	N.T.S. AREA 92 L/11 RÉGION DU S.N.R.C.	REF. CU 1 RÉF.
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NOM DE LA PROPRIÉTÉ

ISLAND COPPER (BAY)

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

DESCRIPTION OF DEPOSIT/DESCRIPTION DU GISEMENT (continued)

Chalcopyrite occurs as dry veinlets, on slip surfaces and locally as disseminations. It also occurs in minor amounts in quartz veins with molybdenite, in carbonate veins with sphalerite and in veins with pyrite. Molybdenite occurs principally on slip surfaces and less abundantly in quartz veins and hairline fractures with chalcopyrite. Molybdenum concentrates contain significant quantities (0.2 per cent) of rhenium. There are zones having a variable distribution of gilsonite (a hydrocarbon).

In December 1976 Utah International Inc. became a wholly owned subsidiary of General Electric Company. Reserves at the end of 1980 were estimated at approximately 183,000,000 tons 0.48% copper (General Electric Company, 1980 Annual Report).