

## NAME OF PROPERTY

O.K.

OBJECT LOCATED - North Lake zone.

UNCERTAINTY: 300 metres. Lat. 50°02'30" Long. 124°38'50"

Mining Division Vancouver

District

County

Township or Parish

Lot

Concession or Range

Sec

Tp.

R.

## OWNER OR OPERATOR

## DESCRIPTION OF DEPOSIT

The O.K. property lies on the western flank of the Coast Crystalline Complex. The O.K. intrusive complex itself has not been dated, but it is believed to be Cretaceous or Tertiary.

Diorite and gabbro of the Coast Crystalline Complex have been intruded by a composite stock consisting of two phases, the first phase granodiorite and the second leucogranodiorite porphyry, which constitutes a central core. The contacts with the older plutonic rocks are sharp. This composite stock, extending 6 kilometers south from Theodosia Inlet, is known as the O.K. stock. The stock is elliptical in plan, with the long axis trending approximately N15°E and a minor axis that is approximately 3 km wide. Leucogranodiorite porphyry forming the core is a dyke-like body averaging 270 meters wide and 3 km long. The internal contacts between the two phases are obscure or marked by faults, but inclusions of granodiorite within the leucoporphry indicate that it is the younger.

Copper and molybdenum sulphides were deposited directly after or coeval with the emplacement of the leucogranodiorite

see Card 2 ...

Associated minerals or products - Molybdenum.

## HISTORY OF EXPLORATION AND DEVELOPMENT

The property is located at about the 3,000 foot elevation in a plateau-like area 3 miles south of Theodosia Inlet, some 11 miles north-northwest of Powell River.

The showings were discovered and staked by prospectors R.E. Mickel and Mrs. M.V. Boylan, of Powell River, in 1965 as a result of follow-up prospecting of reconnaissance geochemical sampling using the Rubianic Acid method.

Noranda Exploration Company, Limited, optioned the property in 1966. Geological mapping, a geochemical survey, and 8,449 feet of diamond drilling in 15 holes was carried out. The option was dropped in March 1967. American Smelting and Refining Company optioned the property and during 1967-1968 carried out geological mapping, an induced potential survey, and 3,290 feet of diamond drilling in 7 holes. Falconbridge Nickel Mines Limited optioned the property in 1969 and carried out magnetometer and stream sediments surveys and 2,000 feet of diamond drilling in 5 holes. Duval International Corporation optioned the property in 1971 and carried out geological mapping, trenching, and 2,380 feet of percussion drilling in 12 holes.

Granite Mountain Mines Ltd. optioned the property (126 claims) in June 1972. Work during the year included further soil geochemical and induced potential surveys, and 14,031 feet of diamond drilling in 22 holes. Most of the drilling was on the North Lake zone.

Additional staking was done to expand the property to 344 full and fractional claims in the O.K., I.N., DEE, MEM, and Inlet groups. In April 1973 Granite Mountain optioned the property to Sierra Empire Mines Ltd. By September 30, Sierra had expended about \$50,000 on the property to fulfill the first stage of the agreement. On October 3, 1973, the option agreement was terminated with Sierra retaining a 10% working interest in Granite Mountains option agreement with R.E. Mickel and M.V. Boylan.

By an agreement of November 23, 1973, Granite Mountain re-optioned the OK claims to Western Mines Limited. Work by Western during 1974 included 12,695 feet of diamond drilling in 22 holes. Western expended about \$257,000 earning a 50% interest in the option agreement.

Reserves at the end of 1974, above a 0.20 per cent cut-off grade, have been estimated by Western Mines Ltd. at:

see Card 2 ....

HISTORY OF PRODUCTION

REFERENCES

†Meyer, W., Gale, R.E., Randall, A.W; O.K.; Porphyry Deposits of the Canadian Cordillera, Special Volume 15, pp. 311-316, Canadian Institute of Mining and Metallurgy, 1976.

††Meyer, W., and Boyle, P.; Summary Report, O.K. Property, Powell River, B.C.; in Amendment to Statement of Material Facts, March 28th, 1973, Sierra Empire Mines Ltd.

Reports of Minister of Mines, British Columbia: 1967, p. 58; 1968, p. 73.

Mineral Policy Sector; Corporation Files: "Golden Granite Mines Limited"; "Sierra Empire Mines Ltd."; "Western Mines Limited"; "Aquarius Resources Ltd.". "Rhyolite Resources Inc".

Geology, Exploration, and Mining; British Columbia Dept. of Mines: 1970, p. 229; 1971, p. 313; 1972, p. 284; 1974, p. 207; 1975, p. G-53; 1977, p. E 171.

Geological Fieldwork, British Columbia Dept. of Mines: 1975, p. 44.

Exploration in British Columbia; British Columbia Dept. of Mines: 1980, p. 264; 1982, pp. 220, 221.

George Cross News Letter: 1984, No. 212.

MAP REFERENCES

Geology of the O.K. deposit (from Meyer, Gale, and Randall), Sc. 1 cm: 225 m (approx.), Fig. G-25, Geology, Exploration, and Mining, 1975, p. G-52.

Map 92 K, Bute Inlet, (Topo.), Sc. 1:250,000.

\*Map 92 K/2, Redonda Islands, (Topo.), Sc. 1:50,000.

REMARKS

Comp./Rev. By	DMacR	DMacR	DMacR				
Date	11-78	09-81	05-86				

NAME OF PROPERTY

O.K.

## DESCRIPTION OF DEPOSIT (continued)

porphyry. Sulphides were concentrated in altered granodiorite peripheral to the virtually barren leucogranodiorite porphyry.

A series of steeply dipping NNE-trending post-mineral faults cut both the Coast Crystalline diorite-gabbro and the O.K. stock. These faults offset the predominant northerly trending stock, with both right- and left-lateral separations. The faults and fractures are occupied by a swarm of andesitic and dacitic post-mineral dykes. This swarm is at least 3 km wide and individual dykes may be as much as 35 m wide. These dykes seriously dilute the mineralized body.

Mineralization is associated predominantly with a two-stage quartz stockwork. The older veins coalesce with irregular rounded quartz replacements and the younger ones fill fractures which offset these. Veins vary in width from 2 mm to 5 m, but sulphide mineralization is generally restricted to narrow veins. The veins trend predominantly easterly and northeasterly to form a close stockwork over a large area. Veining is most pronounced in the central leucogranodiorite porphyry and diminishes in intensity outward from it. However, the quartz veins within the leucogranodiorite porphyry core are barren, whereas those within the surrounding granodiorite are generally mineralized.

Sulphides within the O.K. porphyry copper deposit include chalcopyrite, molybdenite and pyrite, with very minor sphalerite and bornite. Minor magnetite is also associated erratically with pyrite and chalcopyrite. The chalcopyrite and molybdenite are closely associated with a stockwork of quartz veinlets, but also occur as coatings on fractures and disseminated grains replacing altered mafics. The magnetite is chiefly disseminated and most commonly forms rosettes or spherules.

The best copper and molybdenum mineralization discovered to date is in the North Lake zone south of Big North Lake. This zone is located on the east side of the leucogranodiorite porphyry, where an area of granodiorite 270 meters wide by 500 meters long has been tested to a depth of 235 meters.

## HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

Drill indicated....49,000,000 tonnes grading

0.30% Cu and 0.016% MoS<sub>2</sub>

Inferred.....19,000,000 tonnes grading

0.26% Cu and 0.02% MoS<sub>2</sub>

These reserves include any barren dykes less than 3 m in width and assume that barren dykes greater than 3 m wide can be mined as waste. The mineralized zone averages approximately 20 per cent barren dykes. (Meyer, Gale, and Randall, C.I.M., Spec. Vol. 15, p. 315).

The company name (Granite Mountain) was changed in January 1975 to Golden Granite Mines Limited. The company negotiated a new exploration agreement with Western Mines Limited in 1976. Work by Western during 1977 included geological mapping, and 600 metres of diamond drilling in 3 holes; the options held by Western and Golden Granite were subsequently abandoned.

Aquarius Resources Ltd. optioned the property in 1979. Work during 1980 included geophysical and geochemical surveys (magnetometer over 12.5 k and 1,035 soil samples) and 205 m of diamond drilling in 3 holes. In 1982 induced polarization surveys over 32 km, soil geochemical surveys and trenching were carried out.

Rhyolite Resources Inc in June 1984 optioned from Aquarius its interest in the agreement of sale with owners Mickle and Boylan. A geostatistical treatment of drill results (more than 15 000 m to date) suggest geological reserves of 240,000,000 tons grading 0.24% Cu and 0.015% MoS<sub>2</sub> at a cut-off grade of 0.2% Cu equivalent (N.C. Carter, 11/07/84 - in Rhyolite Resources Inc Filing Statement 277/84).