

NAME OF PROPERTY

AURUM (IDAHO) (CAROLIN)

OBJECT LOCATED - Idaho claim (Lot 1234).

UNCERTAINTY IN METRES 100. Lat. 49°30'35" Long. 121°17'20"

Mining Division New Westminster District Yale

County Township or Parish

Lot Concession or Range

Sec Tp. R.

OWNER OR OPERATOR AND ADDRESS

Carolyn Mines Ltd.

DESCRIPTION OF DEPOSIT

The country rocks are Devonian (?) to Permian Hozameen Group chert, fine-grained clastics (pelite), and minor limestone to the southwest and Upper Jurassic Ladner Group pelite, less abundant volcanic sandstone, minor conglomerate, and local volcanic rocks to the northeast. The northwesterly trending contact between the Hozameen and Ladner groups is marked by serpentine and altered dioritic to basic bodies of the Hozameen fault, a remarkably straight structure that appears to have a near vertical dip. Gold deposits occur within and adjacent to this serpentine belt.

The initial period of underground work explored a zone 50 to 80 feet wide composed of altered serpentine and ribbed by two or more diorite or quartz diorite dykes varying from 2 to 10 feet or more wide. This zone of composite rocks has been subjected to strong shearing, and subsequent hydrothermal alteration, with the result that its constituent members have been largely altered to talcose and talc-carbonate rocks. On either side the zone passes into massive serpentine within which occasional small
see Card 2

Associated minerals or products of value - Silver.

HISTORY OF EXPLORATION AND DEVELOPMENT

The Idaho claim is located at the 3,500 foot elevation on the south fork of Ladner Creek, 10½ miles northeast of Hope.

The Idaho group of 4 claims, owned by A.E. Raab, T. De Angelus, R. Palmer, and associates, was under development by open cuts and trenches from about 1919. The Pittsburg (O'Connell) (Snowstorm) group of 7 claims, adjoining to the southeast, were owned by J. O'Connell & associates in 1919. The lode gold showings had been discovered by tracing placer gold up a gulch by panning.

At about the same time additional claim staking was done in a single row extending northwesterly from the Idaho claim to west of the Pipestem property (92 H/11, AU 9) and included the Montana claim, the Rush of the Bull Nos. 1 and 2 Fractional claims, and the Gem group comprising the Golden Cache Nos. 1 and 2 and Gem claims. In 1929 this ground was covered by the Montana group of 6 claims and a fraction. Open cutting was reported.

In 1926 the two properties (Idaho and Pittsburg) were consolidated and restaked by A.E. Raab as the Aurum 1-6, Idaho, Tramway, Monitor, Annex, Sylvia B, and I.X.L. claims. Prospecting in 1927 on Aurum No. 1 claim revealed high values in free gold. An adit (No. 1), driven to investigate this discovery, encountered two small shoots of spectacular ore, one near and the other about 125 feet from the portal.

Aurum Mines, Limited, incorporated December 1927, optioned the property; a share interest in Aurum was held by Dominion Ore Concentrating Company, Limited, of New Westminster. Development work during 1928-1930 included about 2,500 lineal feet of underground workings in adit Nos. 1, 2, 2 A, 3 and 4. The claims reverted to Mr. Raab in 1930.

Crown-grants were issued in 1930 and 1931 as follows: Aurum 1-6 (Lots 1236-1241) and Monitor (Lot 1242) to A.E. Raab; Idaho (Lot 1234) to Antonio De Angelus and A.E. Raab; Tramway (Lot 1235) to Mr. De Angelus.

Options were reported held on the property by Consolidated Underwriters, Limited, in 1932 and by Dawson Consolidated Gold Mines, Limited, in 1933. Cardinal Mining & Development Co., Ltd., optioned the property from Mr. Raab in 1935 but no development work was reported. Small amounts of ore were reported shipped by Kunke & Currie, of Hope, in 1939 and Rivers & Rice, of Hope, in 1942. Diamond drilling
see Card 2

Mineral Development Sector, Department of Energy, Mines and Resources, Ottawa
513638 *

HISTORY OF PRODUCTION

From 1930 to 1942, 545 tons of ore were shipped from this property. From this ore 533 ounces of gold, and 97 ounces of silver were recovered.

The first doré bullion bar was poured in Feb. 1982 and mining was at a rate of 1,500 tons per day from which there are produced 175 to 200 ounces of gold.

REFERENCES

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- Mineral Policy Sector; Corporation Files: "Aurum Mines Limited"; "Dawson Consolidated Gold Mines, Limited"; "Cardinal Mining & Development Co., Ltd."; "Carolyn Mines Ltd."; "Numac Oil & Gas Ltd."; "Precambrian Shield Resources Limited".
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MAP REFERENCES

- Map 12-1969, Hope (West Half), (Geol.), Sc. 1:250,000 - accomp. Paper 69-47.
- Map 1988, Coquihalla River Area, (Geol.), Sc. 1":1 mile - accomp. Memoir 139.
- Map 737 A, Hope, (Geol.), Sc. 1":4 miles (1954).
- Map 8535 G, Spuzzum, (Aeromag.), Sc. 1":1 mile.
- #Map 92 H/11, Spuzzum, (Topo.), Sc. 1:50,000.
- Ladner Creek Project, Sc. 2.4 cm:1,000 m, Fig. 7, Rept. by D.R. Cochrane in Carolyn Mines Ltd. Statement of Material Facts 24/04/80.

REMARKS

Comp./Rev. By	DMacR	DMacR	JL				
Date	2-78	01-82	09-82				

NAME OF PROPERTY

AURUM (IDAHO)

DESCRIPTION OF DEPOSIT (continued)

bodies and dyke-like masses of fine-grained "white rock" are encountered. On No. 1 level specimens of altered dyke and talc-carbonate rock have been obtained showing a conspicuous amount of free gold.

The Idaho upper and lower zones, outlined by Carolin Mines in the mid 1970's, comprise two subparallel mineralized replacement zones which strike about north 30 degrees west and dip 20 to 30 degrees northeasterly. The thickness of the zones vary but large parts of the upper zone average over 25 metres. Auriferous zones are structurally controlled replacements with albite, carbonate, pyrrhotite, arsenopyrite, pyrite, and minor chalcopyrite. The auriferous zones start about 75 to 100 metres east of faulted contact between the serpentine and Ladner Group rocks and appear to occur in coarser grained horizons.

Other ore is in a series of lenses which are irregular in both the horizontal and vertical planes, but with generally steep dips and a low plunge of about 20° northerly. The lenses vary in length from a minimum of 50 meters to a maximum 200 meters, and in vertical height from less than 10 to 100 meters.

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

in 8 shallow holes was reportedly carried out in 1945-46 on the Idaho zone. Summit Mining Co. Ltd., incorporated in 1961, acquired the property and in 1966 carried out 8,000 lineal feet of trenching.

Carolin Mines Ltd. in June 1973 optioned the Aurum Crown-grants, the Pipestem property located over a mile to the north, and intervening claims, from Summit Mining Co. Ltd. Exploration work by Carolin Mines on the south half of the property included geological mapping, ground magnetometer and geochemical soil (3,200 samples) surveys over 30 line-miles, trenching, and 1,760 feet of diamond drilling in 7 holes on the Idaho zone. Further work in 1974 included magnetometer and geochemical soil surveys over 22 line-miles covering one half the claims, and 8,000 feet of diamond drilling in 25 holes on the Idaho zone.

Early in 1975 an agreement was reached with Numac Oil & Gas Ltd. and Precambrian Shield Resources Limited whereby the two companies on a 50-50 basis were given an option to earn a 60% interest in the property. Exploration work during the year, under the management of Precambrian, included 1,800 metres of diamond drilling in 6 holes on the Idaho zone.

Drill indicated and possible reserves in the Upper and Lower Idaho zones were estimated at 1,368,500 tons averaging 0.163 ounce gold per ton (Numac Oil & Gas Ltd. 1975 Annual Report). A subsequent reserve estimate for the Idaho zone indicates 4.2 million tons averaging 0.098 ounce gold per ton. (Northern Miner, Oct. 27, 1977, p. 1).

The McMaster zone, located about 3,500 feet northwest from the Idaho zone, possibly in the vicinity of the former Gem claim, was discovered as a geochemical anomaly in about 1974. Geological mapping, trenching, and 518 metres of diamond drilling in 7 holes was carried out in 1975. This work indicated mineralization similar to the Idaho zone.

Carolin Mines Ltd. in 1976 bought out the Numac and Precambrian interests in the property by the issue of 62,500 shares to each company. In mid 1977 Carolin Mines obtained financing from Norvan Management and a program of underground exploration was begun, including the driving of a 2,000 foot 20° decline, drifting, raising, diamond drilling, and bulk sampling.

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

Under a joint venture agreement of July 1978 as to Carolin Mines Ltd. (50%) and the Aquarius Group of oil companies (50%), the latter agreed to finance development costs of more than \$35 million; the Aquarius Group comprised Aquarius Resources Ltd., Great Basins Petroleum Co., Ocelot Industries Ltd., and Windjammer Power & Gas Ltd. In August 1978 Summit Mining sold its interest in the June 1973 Carolin agreement to Norvan Management, of North Vancouver. A feasibility study of the Idaho zone, based on drill indicated reserves of 1,530,000 tonnes at 0.141 oz troy/tonne after dilution, was completed in May 1979. Following a Sept. 79 decision to place the property in production two new adits were driven to the Idaho zone, a 1,015 m main haulage adit at the 800 m elevation, and a second adit at the 900 m elevation to prepare the ore zone for sub-level open stoping.

The 1,500 ton per day mill was put into operation in November 1981. Work began on a 3,000' northerly extension of the main haulage adit to the McMaster zone. Late in 1981 Great Basin Petroleum sold its subsidiary, Columbia Northland Exploration Ltd., to Carolin for 1.4 million shares, boosting Carolin Mines interest to 67.5%. As a result only the south half of the claim is controlled by Carolin and Aquarius group of companies; the northern half is wholly-owned by Carolin.

The adit at the 900 m elevation was driven horizontally for a distance of 915 metres, intersecting the Idaho decline. Drill indicated reserves in 1982 totalled 1,650,000 tons grading 0.14 ozs Au/ton, 0.03 ozs Ag/ton with a cut-off grade of 0.08 ozs Au/ton. (World Mining, June 1982, p. 44).