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*92H* AURUM GOLD MINE *92H/11W*  
*11W* SUMMIT MINING COMPANY LTD. *3,7,6*  
HOPE, B.C.  
August 27, 1963. F.J. Hensworth.

*92H/11W-3*

PROPERTY FILE

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616

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PRELIMINARY REPORT

on the

AURUM MINE

SUMMIT MINING COMPANY LTD.

COQUICHALLA AREA, B.C.

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PRELIMINARY REPORT  
on the  
AURUM MINE  
SUMMIT MINING COMPANY LTD.  
COQUICHALLA AREA, B.C.

INTRODUCTION

This report on the Aurum gold property is prepared for Summit Mining Company at the request of Mr. A. (Buster) McCombs, of Box 2, Harrison Hot Springs, B.C. The property was examined on August 20, 1963, in company with Mr. McCombs and Mr. Jack Bailey. Additional information has been obtained from reports by government geologists: Dr. C.E. Cairnes, Dr. J.S. Stevenson, and Mr. B.T. O'Grady.

SUMMARY

The Summit Mining Company hold 28 mineral claims, on Ladner Creek, 15 miles north of Hope, B.C. The ground includes the old Aurum gold mine and additional claims to the north.

There are two types of gold deposits; free gold and sulphides associated with talc along the east contact of the serpentine belt, and larger silicified zones containing lower grade gold values.

A new road has been constructed for three miles and is being extended.

A geological survey and subsequent preliminary development is recommended.

#### RECOMMENDATIONS

Complete the motor road to the Aurum campsite. Continue tractor roads up the mountain, and use the bulldozer to investigate by stripping, both the serpentine contact to the northwest, and the silicified zones to the northeast.

Conduct a geological survey of the claims, mapping all rock outcrops and mine workings. A magnetometer could be used effectively to trace the serpentine contact wherever it is covered by overburden. This program of geological mapping is a primary requisite to planning other exploration work. Favorable areas should then be stripped by bulldozer, and sampled. Along the serpentine contact mineralized sections should be investigated by short drifts. On the larger mineralized areas in the slates, a program of diamond drilling will eventually be required to determine if these siliceous zones are commercial:

#### PROPERTY AND OWNERSHIP

The property consists of eight crown-granted mineral claims held under an agreement to purchase, and 20 claims located by Summit Mining Co. All the claims are in the New Westminster Mining Division.

The following is a list of the claims:

##### Crown-grants

Idaho	Lot 1234	40.75 acres
Tramway	Lot 1235	51.15 acres
Aurum No. 1	Lot 1236	47.01 acres
Aurum No. 2	Lot 1237	38.89 acres
Aurum No. 3	Lot 1238	42.48 acres
Aurum No. 4	Lot 1239	47.42 acres
Aurum No. 5	Lot 1240	17.99 acres
Aurum No. 6	Lot 1241	35.63 acres

Located claims

Cabin #1	Tag No. 450301
Cabin #2	Tag No. 450208
Cabin #3	Tag No. 450210
Cabin #4	Tag No. 450209
Cabin #5	Tag No. 450211
Cabin #6	Tag No. 450207
Cabin #7	Tag No. 450319
Cabin #8	Tag No. 450320
Cabin #9	Tag No. 450317
Cabin #10	Tag No. 450318
Cabin #11	Tag No. 450315
Cabin #12	Tag No. 450316
Cabin #13	Tag No. 450313
Cabin #14	Tag No. 450314
Cabin #20	Tag No. 450306
Cabin #21	Tag No. 450302
Gold Star Nos. 1-4	

The Cabin claims lie northwest of the crown-grants and the Gold Star group are to the north. The location lines of the Cabin claims have been surveyed by Tunbridge & Tunbridge, B.C.L.S., and a plan has been prepared on a scale of 600 feet to one inch. It is suggested that the survey plats of the crown-granted claims be obtained from the Surveyor-General, and that a base map be prepared of all the claims on a scale of 300 feet to one inch. The mine workings, roads, and surface geology could be plotted on this map, with more detailed larger-scale maps to cover mineralized areas.

LOCATION AND ACCESS

The property is situated on the south fork of Ladner creek, in the Coquihalla area, about 15 miles north of Hope, B.C.

Access from Hope is by government road for two miles, then by Pretty Logging Company's private road for 13 miles to the mine road turnoff at about 1,300-foot elevation. Summit Mining Company are constructing a road to the old Aurum Campsite, at 2,450-foot elevation. The new road follows the old trail for three miles. About  $\frac{3}{4}$ -mile remains to be completed, but this section includes considerable rock work. Men and equipment were working on the road at the time of the writer's visit. The road follows an even grade, and when ditched and gravelled will provide ready access to the claims. When the motor road is completed, it is planned to construct a tractor road to the old adits and up to the opencuts on the Idaho claim.

## GEOLOGY

The claims lie a short distance east of the eastern contact of the Coast Range granitic batholith. This geological position is similar to the Bridge River and Portland Canal mines which have accounted for the major gold production of this province.

Oldest rocks in the area are andesites, interbedded with argillites and quartzites. The sediments strike north to northwesterly and dip steeply to the northeast. These rocks are overlain to the northeast by a wide band of black argillites, known as the Ladner slates.

The geologic feature of the area is a lenticular belt of ultrabasic intrusives, altered to greenstone, serpentine, and talc.

Many small porphyry dikes cut the sedimentary rocks.

## HISTORY AND PRODUCTION

# "Before the discovery of the gold properties in the serpentine-belt, quartz veins and siliceous zones in both the Ladner slate-belt to the north-east and the rocks of the Cache Creek series to the south-west had been prospected for several years, and from 1916 there had been small intermittent production. In 1928, high-grade gold ore was found on the Aurum in a talcose-shear along the north-easterly contact of a band of serpentine. Other discoveries related to serpentine bodies were made north-westerly and south-easterly, and for some time the area was actively prospected; but many prospects were promoted beyond their merits, more energy and money being spent in promoting them than in actual prospecting. Between 1916 and 1942 five properties produced ore amounting to 3,102 tons and containing 3,912 oz. of gold, an average of 1.2 oz. of gold per ton."

'After the recognition or discovery of gold along serpentine contacts, the serpentine-belt was boomed and many short-lived companies were formed. It is to be inferred from this that considerable prospecting has been done along the serpentine contacts, but it is not known how thoroughly this was done. The Aurum, towards the north-western end of the line of properties on the belt, is the one producer from the talc-seam."

Recorded lode production from the Aurum mine is 545 tons containing 533 ounces of gold and 97 ounces of silver. It is rumored that a considerable tonnage of rich ore was "high-graded" by the employees.

# Lode-Gold Deposits - Bulletin No. 20 - Part IV by Dr. J.S. Stevenson

### MINE WORKINGS

The following description of the mine workings is taken from Mr. B.T. O'Grady's report:

# "The older Aurum mine-workings, comprising Nos. 1, 2, 2A, 3, and 4 adits, at respective elevations of 2,920, 2,830, 2,790, 2,705, and 2,600 feet, aggregate about 2,500 lineal feet of work. This work consisted chiefly of drifting north-westerly on or adjacent to the talc-seam formed along the periphery of a serpentine-contact. Nos. 2, 2A, 3, and 4 adits are respectively in a south-easterly direction from No. 1 adit. Two small shoots of auriferous talc were stoped above the No. 1 level, and another small shoot (corresponding to the south-easterly shoot, near the portal in No. 1 adit) stoped above No. 2. There is also a small stope on the No. 3 level where some gold values were encountered in a siliceous zone. No stoping was done on the No. 4 level, the face of which is about vertically below the portal of No. 2A. Subsequent work in the mine is as follows: At 2,898 feet elevation or about 35 feet below No. 1 level, on the dip of the talc-seam, an adit 49 feet long has been driven to exploit the small area left between the portal ore-shoot on No. 1 level and the stope putup below it from No. 2 level. The new working shows talc in the face and adjoining hanging-wall, 24 inches wide. In No. 4 level, 20 feet back from the northern face, a winze, full of water when inspected, has been sunk about 5 feet adjoining a talc shear in greenstone near the contact with sediments. At the collar of the winze there is a showing of quartz mixed with calcite 6 to 9 inches wide, which apparently widens to about 18 inches below the water-level."

Only the original discovery outcrop area and No. 2A level are accessible. It would be unreasonable to expect that any of the high-grade ore had been left in the underground workings. An examination of No. 2A level confirmed this assumption. However, it is believed that systematic geologic mapping may indicate places where pockets of good ore have been missed.

### MINERALIZATION

There are two types of gold mineralization found on the Aurum property; the rich gold ore found in the talcose shear zone along the northeast contact of the serpentine belt; and the quartz veins and siliceous zones in the Ladner slate belt.



## 1. Serpentine contact type gold deposit

Most of the previous work at the Aurum mine was done on the first type, and was directed toward finding the high-grade gold ore which was concentrated in pockets and veinlets in the shear zone. The writer has seen spectacular specimens of green-black serpentine containing large blobs of gold. During my examination, we were able to find specimens of serpentine, on the mine dumps, containing pin-head size pieces of free gold.

The talc seam containing the small shoots of high-grade gold ore follows along the periphery of the serpentine. According to Dr. Stevenson the gold mineralization is associated with a change in strike of the serpentine belt. The writer noted several small faults in and near the old workings, and it is possible that faulting accounts for part of the change in strike, and that the faults provided channels for the gold mineralization.

The gouge seam (talc) varies in thickness from about one inch to several feet, and is thickest adjacent to rolls in the serpentine wall. In the talcose seam, quartz and calcite are gangue minerals, with associated pyrite, arsenopyrite, pyrrhotite, and free gold. The presence of arsenopyrite is generally an indication of high gold values.

Careful mapping of the area, adjacent to the old workings, may indicate some possibilities for finding additional rich pockets of gold ore.

In addition, there is a long stretch of serpentine contact beyond the workings to the northwest, to be investigated. It is recommended that the serpentine contact be mapped by surface geology, aided by magnetometer readings, and that the contact zone be stripped by bulldozer.

## 2. Quartz veins and siliceous zones

On the Idaho claim, to the northeast of the old adits, there are several parallel zones of quartz stringers or silicified zones, in metamorphosed sediments and greenstones. The silicified rock contains pyrite and some arsenopyrite in narrow streaks or disseminated through the rock formations. These zones carry values in gold across appreciable widths.

In 1935, B.T. O'Grady took several samples. The gold values varied from 0.01 ounces per ton up to 1.10 ounces per ton. Mr. McCombs has taken a chip sample across 20 feet which assayed 0.54 ounces of gold per ton.

The writer did not have time to properly sample these showings and so did not take any samples. The outcrops are insufficiently exposed for a fair sampling or appraisal. However, the writer believes that these silicified zones offer possibilities of proving large, low-grade deposits, which could be mined cheaply.


A program of stripping and trenching, followed by careful sampling is recommended. Provided that this sampling indicates commercial gold values, a program of diamond drilling is recommended to investigate tonnage and grade.

#### ECONOMIC CONSIDERATIONS

The writer wishes to inject a word of warning to the operators at this time. It must be remembered that great amounts of money were raised in past years to develop the gold properties in this area. On the Aurum mine considerable more money was spent looking for high-grade gold ore than was ever returned from production. Today, underground mining costs on small veins has quadrupled, while the price of gold remains fixed. Consequently, investigation of the serpentine contact zone must be approached cautiously with no attempt to drive long adits or to undertake extensive underground work. However, if surface stripping uncovers a high-grade pocket, short adits may be justified. In this case the market for talc should also be investigated.

More emphasis should be placed on the exploration of the large low-grade silicified zones. If these deposits can be proved to contain a large tonnage, of only a few dollars in gold per ton, it may be possible to mine them at a profit by large-scale low-cost methods.

Respectfully submitted,

  
*F. J. Hemsworth*  
F. J. Hemsworth, P. Eng.,  
Consulting Mining Engineer.

August 27, 1963.