



**THE RELIANCE GOLD PROSPECT,
BRIDGE RIVER MINING CAMP
(92J/15)**

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KEYWORDS: Economic geology, Bridge River, Reliance, stibnite, gold, quartz veins.

INTRODUCTION

The Reliance property (092J/NE-033, 136) is located at latitude 50°52' north, longitude 122°47' west, on the south side of Carpenter Lake, roughly opposite the mouth of Gun Creek. Access is by all-weather gravel road 5 kilometres northeast of the town of Gold Bridge (Figure 2-5-1).

The property consists of 17 Crown-granted mineral claims and fractions including the Nemo, Omen and Eros claim groups. Current exploration is focused on the western part of the property.

The writers visited the property on several occasions in July and August 1987, for survey and sampling and to check on the progress of exploration. In this regard, many thanks are owing officers of Menika Mining Co. Ltd., especially Messrs. Charles Boitard and Lawrence Sookchohoff, for their courtesy and cooperation.

HISTORY

The early history of this property was noted by Cairnes (1943): "The Reliance is one of the older properties and has been known from the beginning as an antimony prospect. The original group of four claims was staked in 1910 by Mr. F.A. Brewer, who relocated the property in 1915. By September 1915, it is reported, 4 tons of ore had been bagged for shipment, and the richest carried up to ½ ounce in gold a ton."

In 1917 there was a shipment of hand-cobbed gold-bearing stibnite; no further records are available for this period.

The property was re-organized by Reliance Gold Mines Ltd. in 1933 and development work continued until 1937. This included underground work on several adits and installation of a compressor plant. The mine workings comprised the Old Reliance adit at an elevation of 1100 metres on the Nemo 7 Crown-granted claim, the Fergusson adit (elevation 1023 metres) also on Nemo 7, the Turner adit (elevation 830 metres) on Omen 1 Crown grant, the River adit (elevation 663 metres) on Omen 2 Crown grant, and the Senator adit (elevation approximately 790 metres) on Nemo 1 Crown grant. Short intervals of heavy stibnite mineralization in narrow quartz veins were encountered in the adits.

In 1971, Tri Con Exploration Surveys Ltd. carried out several geotechnical surveys and outlined electromagnetic conductors coincident with a prominent southeast-trending arsenic-antimony geochemical anomaly traversing the western part of the property, including the Senator workings.

There appears to have been no immediate follow-up investigation.

In 1984 the property was acquired by Charles Boitard of Menika Mining Co. Ltd., by option agreement from Karl Otting of Lillooet. Subsequent work has been directed toward confirmation of the Tri Con discoveries and further testing for gold. By November 1987, a total of 38 diamond-drill holes had been completed by Menika Mining Co. Ltd.

GEOLOGY AND MINERALIZATION

The geology of the Reliance claims is relatively simple, consisting mostly of greenstones and small unfaulted blocks of chert. The greenstones comprise thick and massive pillow lavas and breccias, feeder dykes and sills. The rocks are similar to the Pioneer Formation exposed on the Congress property on the north side of Carpenter Lake. The chert beds are intercalated with phyllite locally and are deformed, as is typical of the Fergusson Group. Generally, bedding laminations dip steeply to the southwest.

On the east side of the property, a northerly striking belt of ribbon chert, about 100 metres wide, traverses the area of the mine workings. The various tunnels follow well-defined shear zones in the intervening greenstones. According to Cairnes (1943): "These zones each carry one or more veins of nearly solid, fine to coarsely crystalline stibnite associated with more or less quartz and calcite gangues."

The Old Reliance adit, the uppermost working, follows a southeasterly striking shear in purplish volcanic rocks, the apparent target being several stringers of stibnite, 2 to 5 centimetres wide, which are exposed in a trench above the tunnel.

Cairnes (1943) also reports on the Fergusson adit which is located below and about 200 metres northwest of the Old Reliance adit: "It runs east-northeast for 80 feet (24 metres) in greenstone along a mineralized shear zone 4 feet (1.2 metres) wide to a mineralized fault fissure which offsets the first shear 13 feet (4 metres) to the southeast. Beyond this offset the drift follows the main shear about 25 feet (7.6 metres) to the face. Between the portal and the fault the shear carries a vein of stibnite up to 6 inches (15 centimetres) wide with some quartz. Beyond the fault the stibnite vein is 3 to 4 inches (7 to 10 centimetres) wide and runs off into the foot-wall a few feet from the face of the adit, where, however, other small stringers of stibnite were seen. Above the adit the shear zone has been investigated by a long trench from which a shipment of hand-sorted stibnite is reported to have been extracted in 1917."

The Turner adit is about 375 metres northwest of the Fergusson adit. Cairnes elaborates: "This runs southeast in

green and purple volcanic rocks for 85 feet [26 metres] to a mineralized shear zone several feet wide striking east-northeast and dipping steeply northwest. This was driven on northeasterly for 55 feet [17 metres] and contains veinlets of stibnite in altered and pyritized greenstone. In the opposite direction the shear was followed for only a few feet to a fault striking southeasterly and dipping 50 degrees northeast. Where cut off, the shear zone contained a vein of stibnite several inches wide. Its probable continuation across the fault

appears 6 feet [1.8 metres] to the northwest. Such a displacement is similar to that of the fault in the Fergusson adit."

The River adit is a crosscut to explore the downward projection of the mineralized zones described above.

On the western part of the Reliance property the Senator workings, located about 1100 metres west of the Fergusson adit, are the only remains of the former development. This is the general area of current exploration.

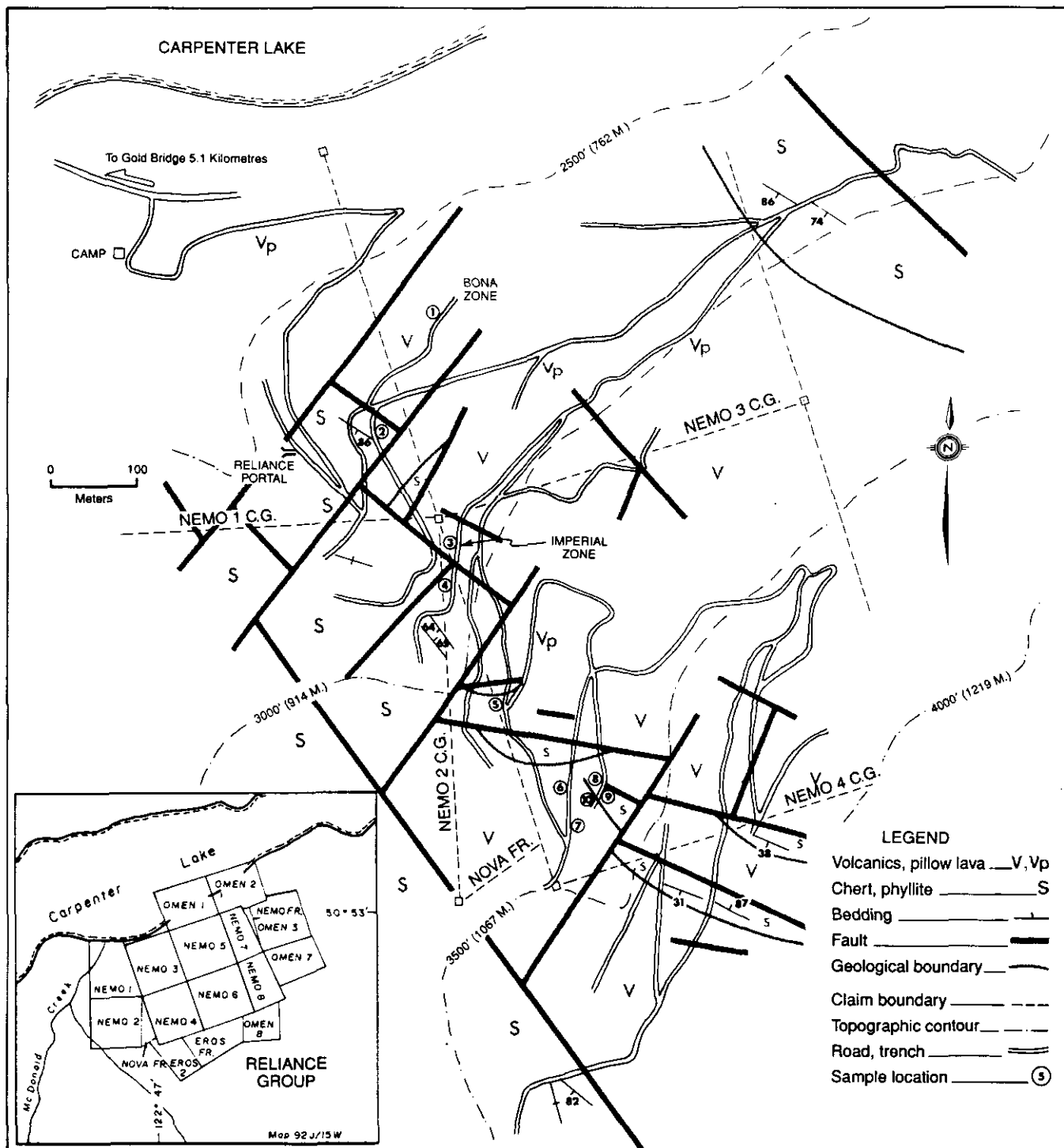


Figure 2-5-1. Geology of the Reliance property, Menika Mining Co. Ltd. (by M.J. Hanna, D.A.R. James and B.N. Church).

The Senator vein is in a northeast-trending shear zone in pyritized and silicified volcanics and ribbon cherts of the Fergusson Group. It contains stibnite in quartz-carbonate yielding assay results in gold to 5.48 grams per tonne and silver to 8.57 grams per tonne.

The Imperial zone, located 200 metres southeast of the Senator portal, is a new discovery. This is an area of northeast-trending stibnite-bearing quartz veins cutting carbonated greenstones and limonitic silicified metasediments. Company assays report 6.34 grams of gold per tonne over 0.3 metre on individual veins and 2.74 grams of gold per tonne across the whole 12 metres of alteration. An east-west fence of recent diamond-drill holes proves similar mineralization to a depth of more than 100 metres. A single grab sample collected by the authors from the north part of the zone (Figure 2-5-1, No. 3) yields gold, 13 grams per tonne; silver, 11 grams per tonne; arsenic, 0.95 per cent and antimony 0.80 per cent.

The Bona zone, located 200 metres northwest of the Senator portal, is another area of limonitic alteration. Sampling by the authors along a 3-metre length of roadcut (Table 2-5-1, No. 1) yielded gold, 12.8 grams per tonne and silver, 2 grams per tonne.

Other interesting zones of alteration and mineralization in this vicinity occur sporadically along the course of the steep northwesterly trending draw located southwest of the Imperial zone, over an elevation interval of several hundred metres.

Control of the mineralization on the Reliance property is governed largely by fractures in the country rocks. Near the old workings on the east part of the property, Cairnes (1943) records: "Two sets of shear zones may be recognized, one striking southeast with steep dips to the southeast and the other trending east-northeast, with steep dips to the northwest. Most of the exploratory work has been done on the latter set."

The same pattern appears to exist in the new exploration area on the west side of the property (Figure 2-5-1). The steep draw passing west of the Senator portal and the Imperial zone is evidently a southeasterly trending fault lineament separating mainly ribbon chert to the west and alternating chert and greenstone panels to the east. A series of subparallel ten-

TABLE 2-5-1
ANALYTICAL RESULTS*

Station No.	Sample Width (m)	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm
1	3	12.8	2.0	85	10	127	424	108
2	3	1.1	1.0	83	8	267	935	73
3	grab	13.0	11.0	123	8	400	9500	8000
4	3	1.2	2.0	119	17	198	1400	3400
5	3	0.06	0.5	84	17	204	40	144
6	4	6.4	2.0	76	3	110	11300	185
7	grab	0.03	<0.5	29	3	67	232	44
8	grab	11.0	1.0	57	7	102	24000	455
9	3	0.04	1.0	85	13	180	80	15
10	3	0.15	1.0	94	18	148	176	68

* Analyses by Analytical Laboratory, Geological Survey Branch, B.C. Ministry of Energy, Mines and Petroleum Resources.

sional feather-fractures, striking northeast off this fault zone, separates the panels and hosts much of the mineralization.

Dykes intruded into the fracture system are mostly pre-mineralization as evidenced by their usual heavily altered condition — no doubt caused by the same migrating hydrothermal solutions which are responsible for the ore.

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