

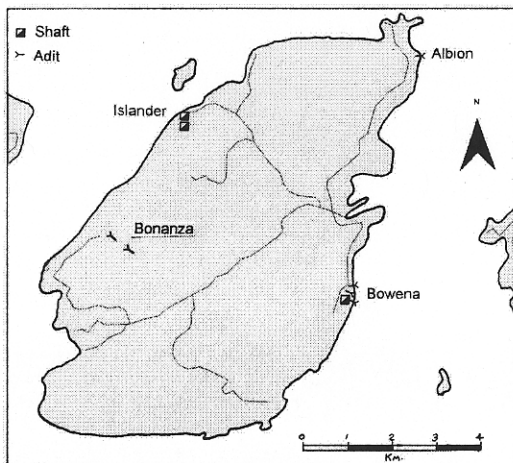
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(from: Jim Laird)

## GOLDEN HOPES AND BROKEN DREAMS - BOWEN ISLAND

### Lost and Forgotten Mines of Southwest BC, Part 1

By James Laird  
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One of the earliest areas of BC to receive attention from hard-rock miners and prospectors was the shorelines and mountains of the Lower Mainland area near the city of Vancouver. Green malachite coatings on copper deposits, red stains of iron minerals and the white streaks of quartz veins show up clearly along the shorelines from a small boat. As early as 1865, copper mineralization had been discovered at the entrance of Howe Sound, beside Whytecliff Park near Horseshoe Bay.



**Mines of Bowen Island**

During the 1870's and 80's, the area around Howe Sound provided prospectors with sufficient encouragement to keep exploring for the "motherload", soon to be discovered near the top of Britannia Mountain. The immense size of the

Britannia copper/gold orebodies brought mining speculators from far and wide, and many a small copper prospect on Howe Sound was touted as "the next Britannia".

Bowen Island had its share of mining ventures evolve out of this early boom era, mostly copper-rich but often containing some gold, silver, lead and zinc. A few settlers called Bowen Island their home in the early years, tending small farms and orchards, fishing, logging the giant trees by hand or with horses and oxen, even starting a small brickworks using local glacial clay beds.

Slate was reported to have been quarried in the 1880's near Cape Roger Curtis on the southwest corner of the island, this was shipped to San Francisco for use as roofing material. The location of this quarry is now unknown, but it is probably the first mineral deposit to be developed and mined on Bowen Island.

During the late 1800's, prospectors had discovered four separate mineralized zones on Bowen Island, notably the Bowena copper mine located south of Snug Cove, the Albion copper mine south of Cates Bay, the Islander copper mine at Galbraith Bay, and the Bonanza gold, silver, lead, zinc, copper mine on the west slope of Mount Gardner.

Exploration of the new prospects began with hand-clearing the dense bush around the showings, followed by open-cut trenching with explosives on the most promising

surface areas. Depending on the topographic expression of the various deposits, adit tunnels were driven and shafts sunk to further test the potential size and grade of the mines. Very little information about the people involved or the events surrounding this small mining boom is found today in public records, and the exact location and mineral content of some reported prospect workings is in doubt today.

Geologically, Bowen Island is underlain by Bowen Island Group greenish volcanic rocks and related sediments which were deposited on the sea floor during the Jurassic era, perhaps 175 million years ago. Several "belts" of intrusive granitic rocks (diorite, granodiorite) of the Coast Plutonic Complex cross the island and are late Jurassic to Lower Cretaceous (150 - 100 my) in age, but may include some younger Tertiary (50 my) intrusions and dikes.

The Albion Gold Mining Company was incorporated in the 1890's to explore the Albion Mine, a copper/gold property near the shoreline south of Cates Bay, on the northeast coast of the island. The proprietors, John James Moore and Benjamin Springer, supervised the drifting of an adit and surface open-cuts, which provided an occasional small shipment of copper/gold ore. Apparently the values and size of the mineral deposit did not merit further financing and development, and the company ceased operations in 1909.

The Islander Mine, owned by the Bowen Island Copper Company, was located on the shoreline of Galbraith

Bay on the northwest part of the island. The main copper-bearing outcrop is on the beach below the high-tide mark. The outcrop contained variable amounts of bornite across a width of about 2 metres; the zone was followed intermittently on surface to the southeast for about 150 metres. Prior to 1907 and near the high tide line, the #1 shaft was sunk to a depth of about 18 metres. 25 metres to the southeast of this shaft, the #2 shaft was sunk to a depth of 53 metres.

At a depth of 15 metres in the #1 shaft, a 36 metre long drift on the ore zone (#1 level) was driven to the southeast past the #2 shaft. At a depth of 48 metres in the #2 shaft, a lower crosscut (#2 level) was driven 12 metres to intersect the ore zone. In the #1 level drift, a section about 10 metres long was stoped out (mined) over a width of about 1.5 metres, which provided some small test shipments subsequently sent to the Tye Copper Company's smelter on Vancouver Island. No record of the value or content of these shipments has been found to date, and the company was officially dissolved in 1924.

The Bonanza Mine is located about three kilometres south of the Islander Mine, on the western slope of Mount Gardner. Originally discovered in the late 1890's, two adits were driven about 1905. The lower adit, just above the main road near the community of Bluewater at about 150 metres elevation, contains chalcopyrite and pyrrhotite in sheared Bowen Island Group

volcanic rock. The adit is possibly 90 metres in length, but copper mineralization is sparse and probably contained only minor gold and silver.

Following a trail from the lower adit up the mountainside to an old logging road, the main Bonanza Mine adit is found at an elevation of 360 metres. This tunnel follows a well-mineralized quartz vein up to 1 metre wide for about 90 metres. A water-filled shaft of unknown depth is located near the inner end of the adit, and an old ore-car was found on the dump. Development of this gold-bearing vein began about 1905, at the hands of Mr. Hubbard and Mr. Elliot of Chicago, and Mr. Menach of Seattle.

The vein follows a fracture zone in sheared volcanics and cherty sediment, near a small diorite intrusion. The vein contains pyrite, sphalerite, galena, arsenopyrite and chalcopyrite in a gangue of milky quartz and wallrock fragments. Three grab samples of better mineralized material were taken by myself and assayed, with values up to 0.372 oz/t gold, 14.08 oz/t silver, 15.81% lead, 10.4% zinc, 7.41% arsenic, 0.12% copper, and 0.05% antimony.

Rich ore indeed, but also loaded with troublesome arsenic. Many of the water wells on the eastside of Mount Gardner have relatively high arsenic contents, causing concern in the community. This is probably due to undiscovered arsenical gold veins leaching into the water table.

As the Bonanza vein had a high lead content, I submitted a sample for the lead-dating database at UBC in the late 1980's. The vein appears to be Lower Cretaceous in age (~100 my), similar to the Britannia Mine, and probably originated at the same time due to regional hydrothermal and intrusive activity. No record of any shipments of ore exists, but the gold-rich arsenopyrite content would have been difficult and expensive to process at the time. This is now known as refractory gold ore and requires roasting to liberate the gold before it can be extracted.

The largest and relatively most productive mine on Bowen Island was the Bowena Mine, located on tidewater on the east coast just south of Snug Cove. This deposit was likely discovered due to the rusty and copper-stained volcanic rocks visible at the shoreline. Found in the late 1800's, the early history of the mine is not well recorded, but a small mining operation shipped 54 tonnes of copper/gold ore to a smelter in 1907, netting 5754 grams of silver and 2,268 kg of copper.

The first claim was called the Neptune, and was staked and Crown-Granted in 1897 by the Bowen Island Gold Mining Company. In 1913, a new company called Bowena Copper Mines was incorporated by Vancouver mining broker C. M. Oliver and Charles M. Buscombe to acquire and develop the mine. From 1913 to 1921, two adits, a shaft, and many opencut surface workings explored three vein systems, resulting in a few small test shipments of copper/gold/silver ore.

The ore consisted primarily of chalcopyrite and pyrite, with lesser pyrrhotite and magnetite, and surface coatings of malachite and azurite. In 1915, a "small test shipment" of ore, probably from the #1 vein located at tidewater, was made to the smelter at Tacoma, giving values of 0.12 oz/t gold, 1.98 oz/t silver, and 5.54% copper. A 1-metre wide assay sample across this vein was taken from the beach exposure in 1916, giving an impressive 0.70 oz/t gold and 7.4% copper. A 10 metre long adit and a 10 metre deep shaft with a short drift are the only underground developments on this vein, along with several surface cuts.

The #3 vein is small and of little consequence, but the #2 vein is strong and well defined, containing mineable sections of good-grade copper/gold ore. A tunnel above the shoreline followed the #2 vein for about 70 metres, with a 15 metre long crosscut drift towards a projected intersection with #1 vein near the shaft.

A 9-tonne test shipment from the #2 vein was made to the smelter at Ladysmith on Vancouver Island in 1917, giving assays of 0.12 oz/t gold, 1.16 oz/t silver, and 3.38% copper. A calculation of ore tonnage available was made as a result of this development, stated as "8000 tons of actual ore and 15,000 tons of probable ore, at a grade of 0.23 oz/t gold, 0.767 oz/t silver, and 2% copper".

Consequently, a decision was made to build a 100 ton-per-day mill. By

the end of the decade, the mill included a crusher, tube mill, 6 float cells, 250-ton ore bunker and dock, camp and outbuildings, water system and power generator, steam-driven compressor and various drills.

A new mining company, Snug Cove Copper Company, had recently staked a claim on the north property boundary of the Bowena Mine and had driven a tunnel 50 metres towards the #2 vein at depth, expecting to intersect it at 75 metres. No further work is recorded. The mill on the Bowena Mine was tested from 1919 to 1921, but was seriously hampered by an under-sized steam boiler and lack of start-up funds due to low copper prices. After the destruction of the mine dock in 1920 during a terrible storm, and failure to produce a marketable product, the mine closed in 1921. An ill-fated attempt was made to revive the mine in the late 1920's, but to no avail.

In 1968, exploration of the general area using modern geochemical and geophysical methods failed to find any new orebodies, and mineral exploration is no longer permitted on Bowen Island. The Bonanza and Bowena mines are easily found, but the Islander and Albion mines are today surrounded by "Private Property" and "Keep Out" signs.

Even though the only "mines" still working on Bowen Island today are gravel pits, the small mines I have described here form an important part of the local history, truly born of "Golden Hopes and Broken Dreams".