

BRITANNIA - THE STORY OF A BRITISH COLUMBIA MINE

- FROM MINING RESOURCE TO HERITAGE RESOURCE

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ABSTRACT

Mining has played a major role in the economic development of British Columbia, a province whose growth has been dependent on its natural resources. Like most early mineral discoveries, the Britannia orebody (located on the east side of Howe Sound north of Vancouver) was found by chance, by a medical doctor prospecting for gold in 1888. From this early discovery, the Britannia Mining and Smelting Company Ltd. developed the property which was to become a leader in British Columbia mineral production. In the 1920s, it was the largest copper producer in the British Empire. It operated for 70 years, produced over 52 million tonnes of ore and employed approximately 60 000 people representing 50 nationalities. The ore was milled at Britannia and the concentrates were shipped to smelters at Crofton on Vancouver Island, Tacoma in Washington State and one as far away as Japan.

Much of the success of the Britannia mines has been credited to their long-term ownership by the Howe Sound Company. However, it was sold in 1963 to Anaconda (Canada) Ltd. Its future looked bright, but it fell victim to a recession and in 1974 the mine was shut down.

Although Britannia was a company town, the community developed a life of its own in the picturesque Howe Sound setting. In 1967, a Centennial committee was formed and commissioned a history of the mine. The committee restructured in 1971 to form the Britannia Beach Historical Society. The society's goals were to preserve the site and establish an outdoor museum. With the assistance of Anaconda and the British Columbia mining community, it opened the British Columbia Museum of Mining to the public in 1975.

Since 1975, the museum has continued to refine and develop its public programs. It has acquired ownership of approximately 16 hectares (40 acres) of land and 22 buildings, including the Britannia concentrator (the mill building). In 1988, the Historic Sites and Monuments Board of Canada recognized the Britannia mines' substantial contribution to the development of Canada's economy by designating the mill a National Historic Site.

The society recently produced a business plan entitled The Britannia Opportunity. The vision is to develop the overall theme of A Day in the Life of a Coastal Resource Community through the rehabilitation and expansion of the museum and the National Historic Site. This will include the development of a town centre at Britannia Beach.

The story of the Britannia mines can be seen as a model for early 20th century hardrock mine development. Likewise the plan for the preservation of that heritage, The Britannia Opportunity, can be seen as a model for future heritage development in Canada.

INTRODUCTION

The Britannia copper orebodies have a well documented history. Doctor A. A. Forbes, a medical doctor who was prospecting for gold, is credited with their 1888 discovery. Development of the mines was at first slow, but by the 1920s and early 1930s, the Britannia operation had become the largest producer of Copper in the British Empire. Almost 70 years of operations produced more than fifty million

tonnes of ore from a volcanic massive sulphide deposit. From the 53 630 983 tonnes of ore mined, 15 299 kilograms (492 968 ounces) of gold, 180 438 kilograms (5 814 026 ounces) of silver, 516 743 031 kilograms (1 139 223 376 pounds) of copper, 15 563 083 kilograms (34 310 727 pounds) of lead, 125 291 323 kilograms (276 220 086 pounds) of zinc, and 444 806 kilograms (980 630 pounds) of cadmium were extracted.

When the mine finally closed in 1974, the legacy of its heritage was already well established by the community of Britannia Beach. A history book, *Britannia - The Story of a Mine* (Ramsey, 1967), had been written and the Britannia Beach Historical Society was three years old. The society's main aim was to preserve the history of mining in British Columbia, with the goal to establish the British Columbia Museum of Mining at Britannia Beach.

LOCATION

The Britannia mines are located approximately 51.5 kilometres (32 miles) north of Vancouver on the eastern shore of Howe Sound. Although for the first 50 years of its existence access was only by water, Britannia is now easily accessible both by rail and road (Figure 21). The Sea-to-Sky Highway (#99) runs right through Britannia on its way to the world-class ski resorts at Whistler and Blackcomb mountains.

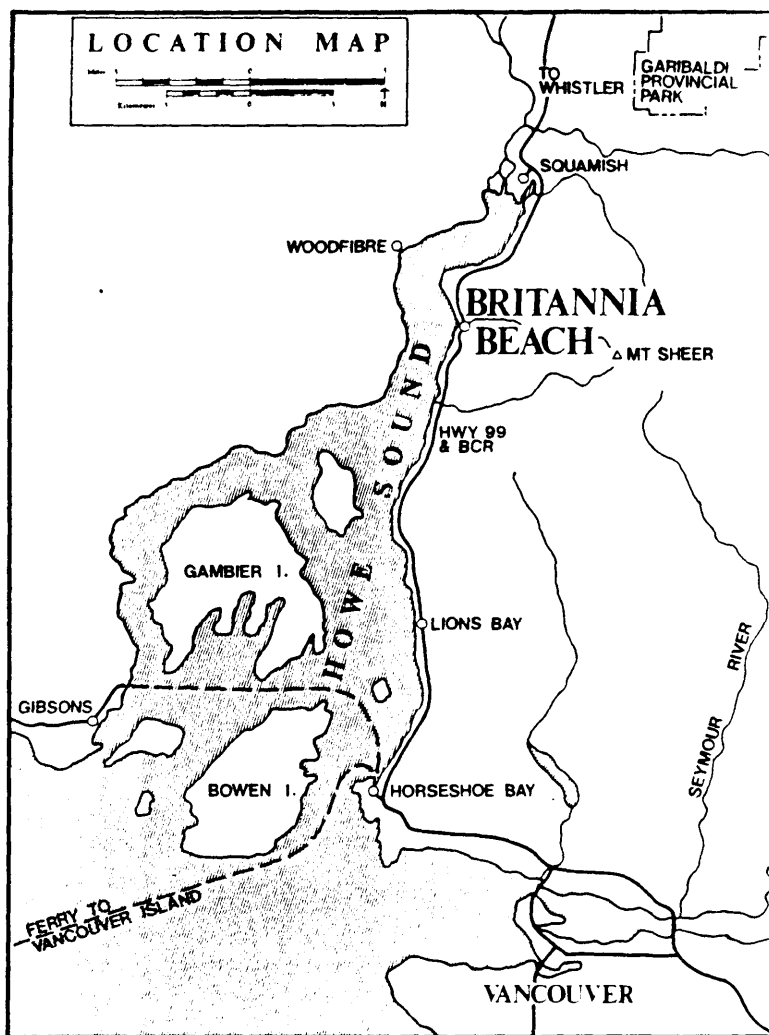


Figure 21. Location and access map of the Britannia Beach mining area.

DISCOVERY AND EARLY HISTORY

In June 1792, Captain George Vancouver was the first European to venture into Howe Sound. The expedition is documented in his diary which mentions an encounter with natives whom he described as skilled traders. Vancouver noted that they possessed copper ornaments and showed a preference for any metal objects which they could obtain by barter (Vancouver, 1984).

It was not until 1859 that the name Britannia was given to the range of mountains on the eastern shore of Howe Sound by a surveyor, George Henry Richards, Captain of the S.S. Plumper. He named the range in honour of the old warship of the British Royal Navy which had participated bravely in several famous sea battles including the Battle of Trafalgar.

A year before the naming of the Britannia Mountains, gold was discovered in the gravels of the Fraser River approximately 150 kilometres upriver from its mouth. This discovery precipitated the famous 1858 Fraser River gold rush. Over the next 40 years, thousands of prospectors and adventurers were lured to the West Coast. Howe Sound was not overlooked in this search for riches. The Britannia area was already known by the natives as a source for red ochre which they used as a pigment in their paint and dyes. Their long-term presence in this area has been documented by petroglyphs which were discovered by the Geological Survey of Canada just north of Furry Creek on the east shoreline of Howe Sound. Red ochre is an oxidation product of iron in the sulphide ores. It is also a visible indicator of some of the valuable minerals sought after by prospectors. It is usually referred to as a gossan.

A sample of mineralized rock and legends of the red ochre brought Doctor A.A. Forbes to Britannia in 1888. Employed by the federal government to care for the local native people who had survived a devastating smallpox epidemic, he was a medical doctor who lived on the west side of Howe Sound. Apart from being a medical doctor, he had nurtured keen interests in chemistry and prospecting which he pursued in his spare time. When a fisherman by the name of Granger showed him a sample of rock containing copper minerals, Doctor Forbes offered to hire him to lead him to its source. Granger wanted money for a boat so he agreed, and the two went to Britannia on a prospecting expedition. After a disappointing two-day search, they were returning home when Doctor Forbes shot a buck deer. In its death throws, it uncovered mineralized rock. After some testing, Doctor Forbes was satisfied with his discovery. As promised, he paid Granger who then bought his boat and left for Alaska. Doctor Forbes worked his prospect off and on for ten years, but eventually became distracted with other more accessible prospects.

In 1898, Oliver Furry, a trapper, was encouraged by some furriers to stake five mineral claims in the area of Britannia. It is unclear how he knew about Doctor Forbes' workings although it is likely he either stumbled across them while tending his traps, or observed Doctor Forbes coming and going from the property. Regardless, Furry's five claims would become known as the Britannia Group. One of them was the famous Jane.

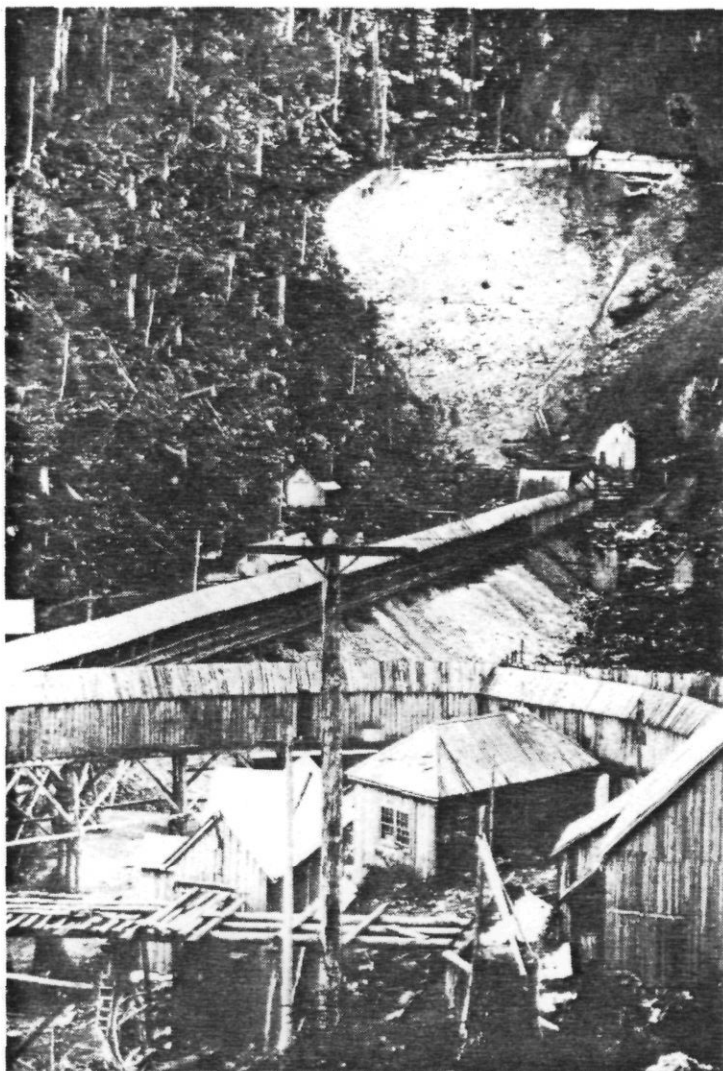


Figure 22. The Jane Basin mine site, circa 1915.

BUSINESS ORGANIZATION AND EARLY DEVELOPMENT

Control over the claims passed in quick succession to a firm of Victoria fur buyers and then to a group of Vancouver businessmen who formed the Britannia Syndicate. Local interest did not really take hold until 1901 when George Robinson, a mining engineer from Butte, Montana, visited the property. Upon inspection, he concluded that it was well situated for a mining operation. The orebodies were only 5 kilometres from tidewater on the east side of Howe Sound and 50 kilometres by water from the fast-growing city of Vancouver which could provide the necessary services and work force. There were magnificent stands of timber in the area for construction and an ample water supply for power and other uses.

The Britannia group of claims had been staked by various interests. They included four adjoining claims: the Jane, the Bluff, the Fairview and the Empress. Estimates of ore potential were between 1 and 3 million tonnes. In spite of these favourable indications, Robinson knew from experience that considerable development work was necessary before the mine could move into production. This would require a major influx of capital and the establishment of a business structure. With the assistance of Grant B. Schley, head of a New York banking establishment, control of the Britannia Syndicate was secured and the Honourable Edgar Dewdney, former Lieutenant-Governor of British Columbia and famous builder of the Dewdney Trail, was appointed President. The Howe Sound Company was established to serve as a holding company for the

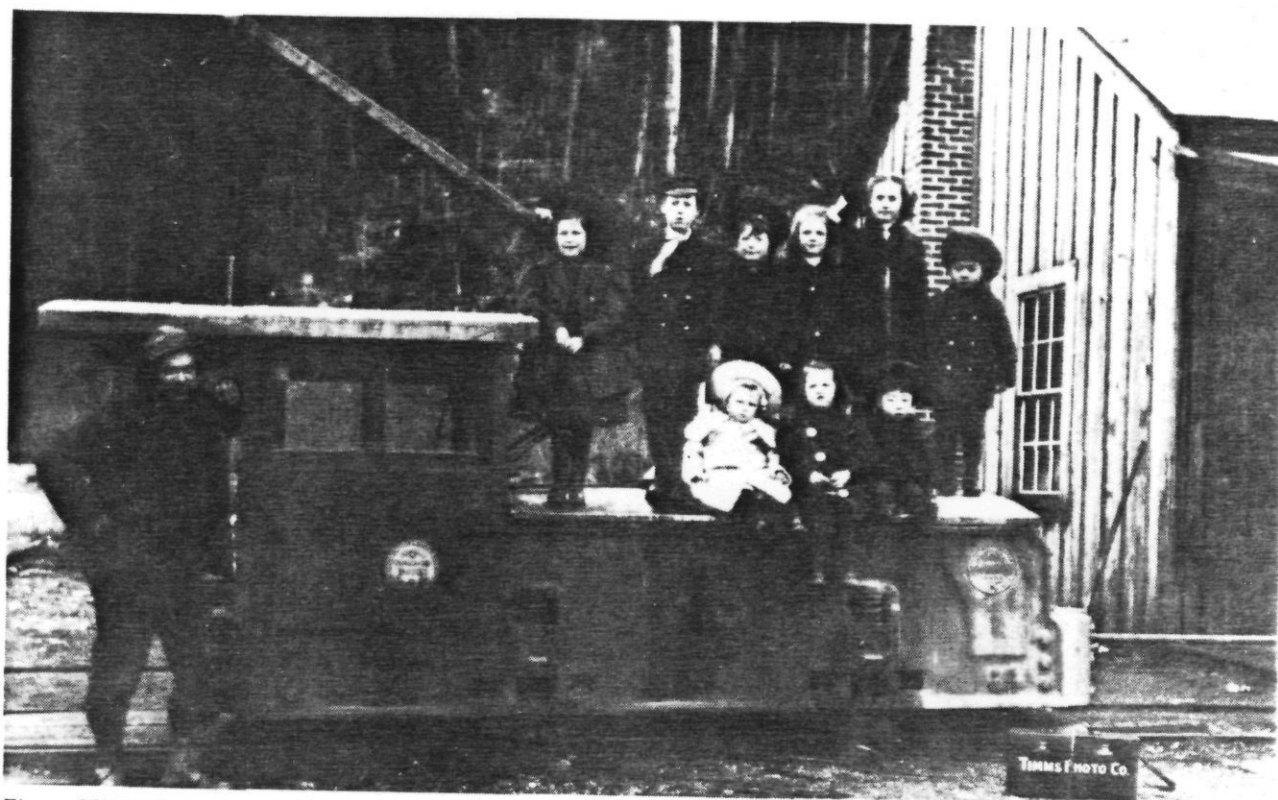


Figure 23. Early Britannia children, circa 1914 (Vancouver Public Library photo number 7532)



Figure 24. Britannia Beach, circa 1916.

operation which later became known as the Britannia Mining and Smelting Company. Much of the future success of the operation has been credited to the long term ownership of the mines by the Howe Sound Company.

In 1903, an infusion of capital enabled Robinson to carry out his plan. At the Jane Basin where the mine was located, new adits were driven and service buildings were built (Figure 22). Families moved in and the Jane community was established. To transport ore down the mountain to the shore, an aerial tramway, 5 kilometres long was constructed in two sections. The original concentrator, Mill Number 1 (with a processing capacity of 200 tons of ore per day) was constructed at Britannia Beach. Transportation facilities were also built and a community which serviced the mine and the mill was growing. In 1905, the first ore was produced and shipped to the Crofton smelter on Vancouver Island owned by Howe Sound Company.

George Robinson, whose drive, determination and influence had brought the mine into production, died suddenly in 1906. Meanwhile world copper prices had declined and there were problems separating the ore. During this trying period, Mr. R.H. Leach controlled the operation. Though we know very little about Mr. Leach, we gain a very good insight into the social history of the period through the eyes of Harriet Backus, the wife of assayer George Backus who had been hired to solve the mineral separation problems. In her book *Tomboy Bride* she describes in great detail her visit through the mill, the luxury of her home and the company store, the pretty cottages, the school and the hospital (Backus, 1969). As well, she entertains us with details about the employees of mixed racial backgrounds who comprised the Britannia work force (Figure 23).

MOODIE ERA

In 1912, the operation was given a major boost by G.B. Schley who never lost sight of Robinson's dream. Although he never visited Britannia, he had great faith in the property. To replace Leach, he hired Canadian J.W.D. Moodie, a demanding but skillful mining man. Moodie was given full authority and approximately \$5 million capital to revamp every aspect of the operation. Over the next eight years, he was highly successful, launching Britannia into the ranks of world copper producers (Figure 24).

By this time, the mining operation had been expanded to over 600 employees, but the high-grade ore had been mined out. There was still an abundance of low grade deposits so the key to expansion was improvement in the transportation system and the construction of a new, more efficient mill.

Mill Number 2, a gravity mill, was constructed to take advantage of a newly patented flotation process to treat the low-grade ore. The Crofton smelter had become obsolete. It became economically feasible to ship the concentrates to Tacoma, Washington. To improve the transportation system, a new network of haulage tunnels was driven to connect with the orebodies. A switchback rail line and an incline were also constructed to replace the inefficient aerial tram and horse trail. Production increased tenfold, from 200 tons per day to 2000.

Although this was a highly productive period for the operation, several tragedies rocked the Britannia operation. The worst of these occurred on March 21st, 1915 when an avalanche struck the Jane operation killing more than 50 people. Moodie himself experienced a personal tragedy when his wife died giving birth to their fourth child.

In the wake of the Jane avalanche, immediate plans were implemented to construct a new and safer community at the *Tunnel Camp* which later became known as *The Townsite* or *Mount Sheer*. It soon developed into a self-contained community and friendly rivalries were to spring up between it and the service community at the Beach.



Figure 25. Early miners, circa 1927: at peak production the mine had more than 1000 people on the payroll.



Figure 26. Britannia mine, circa 1948: a world class copper producer.

In 1918, the world-wide 'flu' epidemic ravaged both tightly knit communities. All efforts concentrated on nursing the sick. Yip Bing, the Chinese boy who worked in the store, earned himself the nickname of Dr. Y.B. as he helped care for the sick by delivering pots of soup from his hand cart. Moodie's oldest daughter and his sister (who had come from eastern Canada to care for his motherless children) were both victims of the epidemic. Then G.B. Schley died. An old friend of Moodie's, he had been a long and faithful supporter of the Britannia dream. Schley was replaced by his son, Evander, who was not a friend of Moodie's. Evander ordered a tightening up of the operation and recalled Moodie to home office in New York. Moodie resigned in 1920 missing the next two disasters.

On March 7th, 1921, Mill Number 2 burned to the ground. Then just seven months later, on Sunday October 28th, during a period of heavy rain, Britannia Creek flooded its banks and swept through the unsuspecting community. The town was reduced to a mass of wreckage and tangled debris. Thirty-seven people were killed and many more were injured.

BROWNING ERA

For the next 25 years, the Britannia operation was under the direction of C.P. Browning. He had worked under Moodie's direction since first coming to Britannia in 1913 as a graduate of the Columbia School of Mines. A school friend of E.V. Schley's from Columbia, he had risen dramatically through the hierarchy of the Howe Sound Company. He lived at the *Townsite* with his wife Mary, a Vassar graduate, and their family. They were well liked by the townspeople and many of the conflicts which existed in the community were resolved as a result of Browning's enlightened style of management.

Although it was the momentum resulting from Moodie's drive and determination which successfully brought Britannia into its period of peak productivity, it was the Browning era of social concern and changes in the community which made Britannia a model company town. The company store was reorganized as a cooperative. Community clubs were organized at the Beach and Townsite. Popular events such as the Beach's May 24th crowning of the the Copper Queen and Townsite's July 1st Mining Games became annual traditions. These special events were enthusiastically organized and looked forward to with great anticipation by the whole community.

Following the fire and the flood, a new mill had to be constructed and the Beach community had to be rebuilt. All of Browning's skills were put to the test. It was under his direction that the million dollar Number 3 Mill (which still stands today) was constructed. Designed on similar lines to the Number 2 gravity fed mill, it was nevertheless refined and improved. Instead of timbers, it was built out of steel on a cement foundation. A.C. Munroe, the mill superintendent in 1922, proudly announced that it was processing 2400 tonnes of ore per day.

The transportation system was also upgraded so that an underground rail system replaced the clumsy surface one. With ore now transported to the mill by gravity directly from the far reaches of the mine, Moodie's vision of 1914 had finally been realized.

Britannia mines reached peak production in 1929 when the mill treated more than 6300 tonnes per day (Figure 25). More than a thousand people were on the payroll and the value of the stock jumped from \$3 to \$8 per share. Britannia attracted world-wide attention and became recognized as the British Empire's largest copper producer (Figure 26).

Although the onset of the Great Depression in the 1930s signalled a downturn in the fortunes of the mine, Browning pulled the operation through the decade by cutting production and diversifying the minerals extraction. Gold, silver and pyrite became important byproducts. By 1938, Britannia was again one of the



Figure 27. The last shift, 1974.

largest producing mines in British Columbia as it geared up to produce minerals for World War II.

Labour relations, which had generally been very good under Browning's direction, became an issue in the post-war period as general labour unrest throughout British Columbia precipitated Britannia's first organized strike in 1946. Browning finally retired two years later in 1948. It was the end of an era which had begun in 1913.

PERIOD OF DECLINE

By the late 1950s, new open-pit mines in Merritt and on Vancouver Island had eclipsed the glory which was once Britannia's. When the price of copper fell in 1957, competition became difficult. The mine closed and went into liquidation, and the assets were taken over by the Howe Sound Company. Ironically, this was the hundredth anniversary of British Columbia's becoming a Crown Colony, a political move which had been enacted mainly in recognition of the territory's considerable potential for mineral resource development.

Metal markets strengthened in 1958 and the mine reopened, albeit on a reduced scale. All operations were consolidated at the Beach, and the townsite of Mount Sheer was abandoned. Those buildings which could be salvaged were relocated to the Beach. The rest were eventually destroyed.

In 1963, the future of the mine once again appeared secure when the Anaconda Mining Company purchased the property for \$5 million cash. Anaconda's intention was to use Britannia as a base for its exploration program throughout western Canada. It was an old mine but as long as the price of copper was strong, it was a viable operation. The end finally came in 1974 (Figure 27). Anaconda closed the mine due to rapidly rising costs, increased taxation and growing competition in the marketplace.

This was not, however, the end of the Britannia community. Although a company town, it had developed a life of its own in its picturesque Howe Sound setting. A Centennial Committee had been formed in 1967 to celebrate the Canadian Centennial. Part of the committee's program was the commissioning of a history book on the story of the Britannia mines. It was written by the famous historian, Bruce Ramsey (Ramsey, 1967). Barney Greenlee, the mine manager, also planted the seed to establish a museum on the Britannia site.

BRITANNIA BEACH HISTORICAL SOCIETY (BRITISH COLUMBIA MUSEUM OF MINING)

In 1971, when the British Columbia centennial plans were being formulated, it was decided to formally organize an historical society. The Britannia Beach Historical Society was duly registered. Its primary purpose was to establish a museum of mining which would collect and display artifacts, pursue research, demonstrate mining techniques, and promote interest in mining activities throughout the province of British Columbia.

The immediate goal was to open the museum. In order to achieve this, the membership had to be expanded beyond the citizens of Britannia Beach to include a broad representation of the mining community. The museum's requirements were space for its buildings and a mine tunnel for the planned underground public tours. Working under the leadership of Jack Greenwood, a Vancouver businessman, the society was able to both obtain a government grant to develop the museum infrastructure, and secure from Anaconda a 20-year lease on the land. Working with assistance from Anaconda, the Britannia community, the public sector and the mining community, the British Columbia Museum of Mining opened to the public in 1975 just one year after the mine's closure. The public programs included an underground mine tour with demonstrations of mining machinery, and an interpretation program of British Columbia mining history.

The early success of the museum brought organizational deficiencies into focus. Anaconda had the mine property up for sale and the museum was operating on a short-term lease. Ongoing funding from the public sector was not available and the mining industry, which was suffering through a recession, was reluctant to make a long-term commitment of support. The Britannia community itself was changing as well, and the idea of preserving industrial heritage was new to British Columbia and slow to catch on.

In the face of this, the enthusiastic members of the society persevered and continued to lobby for an extended long-term lease or donation of the museum lands. In 1979, these efforts finally paid off when Anaconda sold the mine property to Copper Beach Estates, a real estate company. One of terms of the transaction was that 16 hectares of land would be held in trust for the Britannia Beach Historical Society, pending subdivision of the property. In 1986, clear title to the museum lands (including 22 buildings and many of the mine records and artifacts), was transferred to the society.

Ownership of the museum lands was now secure but the society was faced with the responsibility of stewardship for the heritage resource and the operation of an outdoor museum in an unincorporated village with few services and a derelict infrastructure. Museum programs required trained staff, and maintenance and service costs were high. There were also tenants who required services as most of the buildings had been leased to generate much-needed income.

Meanwhile, the Department of Highways had announced plans to relocate the Highway 99 route through Britannia, a move which would necessitate the relocation of several museum buildings. Major fund raising became a key issue as did planning, for without an approved master plan, fund raising was next to impossible. Fortunately, there was funding available for planning. As a result, several studies were conducted. Following is an outline of the planning process which took place:

1980	TIDSA Theme Park Study (Simons Consortium, 1980). Civil Study (Relocation of buildings).
1981	Britannia, the story of a British Columbia mine (Dykes, 1980 and 1981).
1982	Britannia Concentrator Study (Idiens, 1982).
1984/86	Museums Assistance Programme (MAP) & Management Study (Heritas Management Incorporated, 1985).
1986	Land Acquisition - transfer of clear title to the Britannia Beach Historical Society of the Museum Lands.
1987/88	National Historic Site submission (Mullan and Green, 1987) and subsequent designation (Taylor, 1987; Anonymous, 1988).
1988	Heritage Trust Britannia Mining Village Feasibility Study (Bezanon, 1988).
1989	Landmark Program Application.
1990	Britannia Opportunity - Long Range Plan. Prelude to the Britannia Opportunity - Business Plan (Mullan, 1990).
1991	British Columbia Provincial Landmark Designation.

CONCLUSION

As the Britannia business plan is developed, the museum programs will focus on the major theme of *A Day in the Life of a Coastal Resource Community*. Visitors will also have the opportunity to trace the evolution of the industry. The process which began with prospectors and miners operating with limited technical knowledge of the earth before them has evolved to the current generation of industrial technical experts who have not only the potential to unlock the secrets of our earth, but also the responsibility to use these valuable treasures wisely.

Even today, we have photo documentation available to illustrate how the Britannia orebodies were deposited. Modern display techniques can visualize the complex nature of ore deposits and consequently focus on the importance of continuing with research and the processes of mine development. What better place for individuals to make these discoveries than at an historic site such as Britannia where past, present and future are all on display? It is a combination not often found in this rapidly changing world. The evolutionary process continues at Britannia Beach which is still a living community of approximately 400 people. The once-great mining resource is now a unique industrial heritage resource with significant potential for development as a world class mining museum integrated with a living heritage site which will continue to grow as a residential community and a major tourist attraction (Figures 28a and 28b).



Figure 28a. The British Columbia Museum of Mining: museum entry, gift shop and administrative office in foreground with Mill Number 3 as it is today in the background

REFERENCES

- Anonymous (1988): Britannia Mines Declared Canadian National Historic Site; *Society for Industrial Archaeology Newsletter*, Volume 17, Number 2.
- Backus, H. F. (1969): Tomboy Bride; *Pruett Publishing Company*, Colorado, Library of Congress, Catalog Number 79-80764, Part 2, pages 131-166.

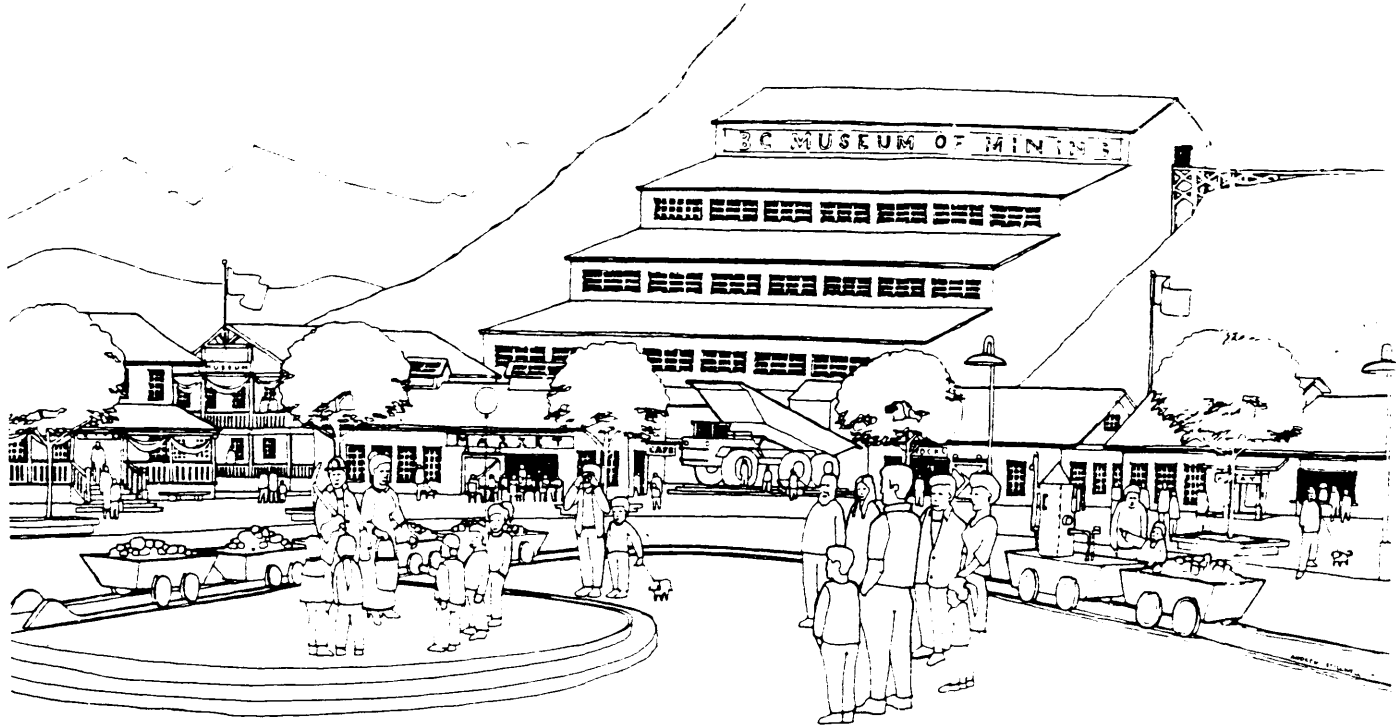


Figure 28b. The British Columbia Museum of Mining: possible future developments.

- Bezanson, J.H. (1988): Britannia Mining Village Feasibility Study; *Architecture Preservation and Heritage Planning*, 63 pages.
- British Columbia Museum of Mining (1990): Historical Information Booklet; *British Columbia Museum of Mining Pamphlet*, 9 pages.
- Dykes, N. (1980): Proposals for a Long Range Plan -British Columbia Museum of Mining, *Nicholas Dykes Communication Services Ltd.*, Vancouver, British Columbia, 29 pages.
- Dykes, N. (1981): A Proposal for Developing the Britannia Beach Area; edited and compiled by M. Mullan, *Nicholas Dykes Communication Services Ltd.*, Vancouver, British Columbia, 4 pages.
- Forbes, A., Browning, C.P., Matheson W.A. and Hurley G.R. (1931): Substance of interview between Dr. A. Forbes and Messrs. C.P. Browning, W.A. Matheson and Geo. R. Hurley; *British Columbia Museum of Mining*, Historic Research file, 5 pages.
- Heritas Management Incorporated (1985): Conceptual Planning and Development Study for Britannia Beach, British Columbia; unpublished report prepared for the *Britannia Beach Historical Society*, Vancouver, 563 pages.
- Idiens, J. (1982): Report on Study of the Existing Concentrator Mill Building at Britannia Beach, British Columbia; *H.A. Simons (International) Ltd.*, 18 pages.
- Leaming, S., Mullan, M. and Spence, A. (1977): Geological Features of the British Columbia Museum of Mining Tunnel and its Vicinity; unpublished paper, *British Columbia Museum of Mining*, 25 pages.
- Mullan, M. and Newell, D. (1984): Britannia Mines Concentrator: Canada's Largest Museum Artifact; *Canadian Institute of Mining and Metallurgy*, Bulletin, Volume 77, Number 868, pages 74 - 76.
- Mullan, M. and Green, S. (1987): Proposal for Designation of Britannia Concentrating Mill Complex as a National Historic Site; unpublished report, *Britannia Beach Historical Society*, 64 pages.
- Mullan, M. (1990): Prelude to the Britannia Opportunity; unpublished 5-year business plan, *British Columbia Museum of Mining*, , 20 pages.

- Public Works Canada (1990): Structural Inspection - Britannia Mines; unpublished report, *Architecture and Engineering Canada*, 14 pages.
- Ramsey, B. (1967): Britannia - the Story of a Mine; *Agency Press Ltd. and Britannia Beach Community Club Publisbers*, Vancouver, 177 pages.
- Ramsey, B. (1968): Mining in Focus; *Agency Press Ltd.*, Vancouver, 160 pages.
- Simons Consortium (1980): Britannia Beach Theme Park Study; unpublished report, 210 pages.
- Taylor, C.J. (1987): Britannia Mines and Concentrator; unpublished position paper, *Historic Sites and Monuments Board of Canada*, pages 291 - 302.
- Vancouver, G. (1984 - reprint): Voyage of Discovery to the North Pacific Ocean and Round the World 1791-1795. Extracts from Captain George Vancouver; *Hakluyt Society*, 4 volumes.