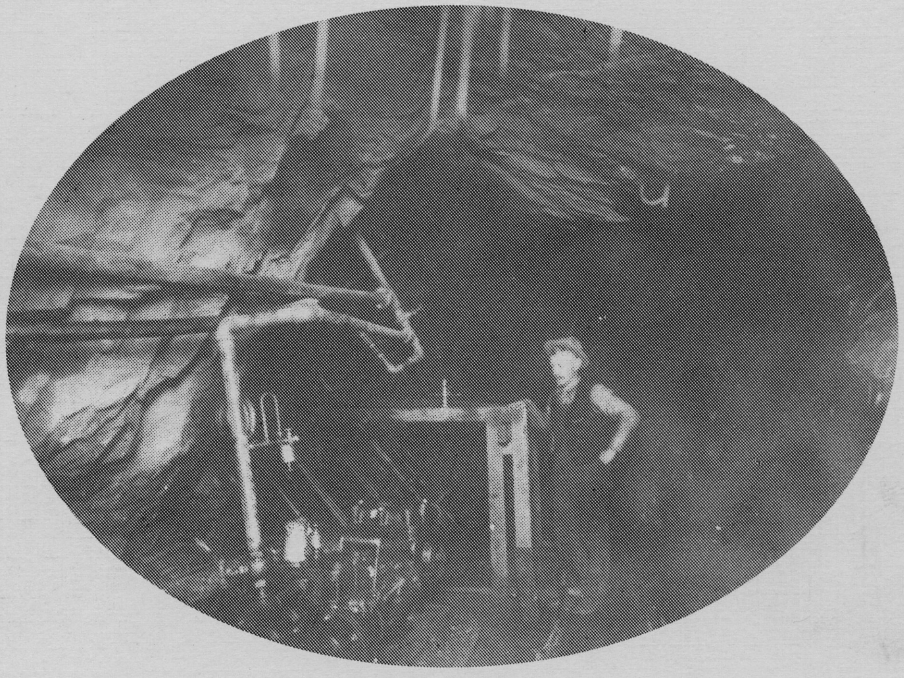
The Silver King



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The Silver King Mine, Nelson, British Columbia

The discovery of the copper-silver deposits on Toad Mountain, British Columbia by the Hall brothers of Colville, Washington in 1886 led to the development of the Silver King mine and ultimately to the founding of Nelson. During the decade following the discovery, the settlement of Nelson expanded rapidly. Furthermore, mining activity encouraged the development of transportation, including wagon roads, railroads and steam boats. Although operations at the Silver King mine and the associated smelter began to founder by the turn of the century, the impact on Nelson and the surrounding community was irreversible. The discovery of silver left its legacy in numerous social, economic and industrial ways. This pamphlet depicts the major events in the history of the Silver King mine and is a tribute to all of those people who were involved.

COVER PHOTO:

Miner rests his candle on a timber near steam-driven compressor at the Silver King Mine. Doesn't he know that a watched coffee pot never boils?

D. Irving collection

Introduction

The existence of precious metals in the West Kootenays had been realized long before the discovery of silver on Toad Mountain. The Indians were probably the first people to discover ore deposits in the area. Evidence also suggests that during the 1820's employees of the Hudson's Bay Company obtained lead, used for bullets, from the galena deposits on the eastern shore of Kootenay Lake. The Bluebell deposit was rediscovered several times before being worked commercially in the early 1880's. Between 1867-69 there was considerable placer mining on Forty Nine Creek. Using sluices and rockers the miners earned gold pay between $6-12 a day. However, it was the discovery of the copper-silver deposits on Toad Mountain in 1886 by the Hall brothers of Colville, Washington that led to the development of the famous Silver King mine and promoted the settlement of Nelson.

Many of the early prospectors were American and American capital played a fundamental role in the development of the hard rock mines of the West Kootenays. An accumulation of capital in the United States, coupled with the proximity of British Columbia, encouraged a flow of money and companies during the early 1890's. The isolation of the area from Victoria and the conservative nature of investors in Eastern Canada discouraged Canadian investment until the later 1890's. Although British capital became involved in the development of the Silver King, it was most significant after 1895.

American influence was felt in other ways. The difficulty of transportation routes in an east-west direction encouraged trading to develop between the West Kootenays and trading posts in Washington and Idaho. The CPR link-ups of the Columbia and Kootenay Steam Navigation Company were developed to protect Canadian interest, but the initial impetus for railroad and water routes came from American entrepreneurs.

Ore production from the Silver King mine was initially shipped to smelters in the United States. American politics were closely followed, particularly legislation influencing the price of silver and the introduction of lead ore tariffs. Indeed, the repeal of the Sherman Silver Purchase Act by the United States senate in 1893 determined the closure of many West Kootenay mines. Furthermore, the introduction of a 30 per cent tariff on lead ores closed markets for the mines and was a factor in the development of local smelters in the Kootenay and Boundary regions during the mid-1890's.

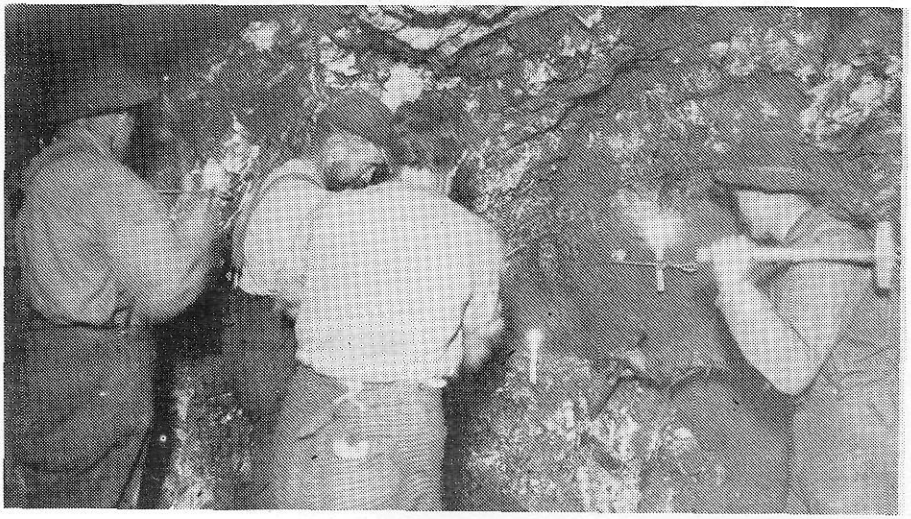
Discovery of the Silver King

Crop failure in the summer of 1886 forced many individuals from Colville County, Washington to head north and try their luck prospecting for gold in the West Kootenays. A party of fifteen, led by two experienced prospectors, Winslow and Osner Hall, set out from Colville to placer mine on the Salmon River. The group included two Indians, Narcisse Downing and Dauney Williams. Towards the end of the mining season, having cut nearly one hundred miles of trail, their food supply diminishing and their spirits increasingly disillusioned, a couple of them wound up on Toad Mountain and accidentally stumbled across an outcrop of gleaming ore. Samples were collected and on returning home assays of the ore revealed a copper-silver deposit rich in silver.

Preparations were made to return in the spring. A neighbour, John McDonald, offered his services as manager of the venture in return for a partnership. Meanwhile the two Indians were tricked into accepting $250 each for relinquishing their rightful claims.

The party returned to Toad Mountain in the spring followed in hot pursuit by hoards of prospectors lured by tales of the fabulous silver find. Four claims were staked by the Halls: Silver King, Kootenay Bonanza, American Flag and Koh-i-noor. Transportation was extremely primitive consisting of canoe, pack train and man's back. Machinery and supplies were dragged up the mountain and work began on the Silver King. Timber was hewn and whipsawn to build mine shafts and rough winter shelter for the men. Fresh food was obtained by hunting and fishing.

The mine was ready for production in 1888. However, a major



Drilling holes in the rock face with hammers and drill steel by candlelight, these intrepid miners inserted dynamite in the holes and blasted the ore free.
P.A.B.C. photo

obstacle remained — smelting the ore. The nearest smelter was at Butte, Montana, a distance of seven hundred miles. Dick Fry, the trader at Bonner's Ferry, Idaho, devised the complex transportation route. Ore was 'rawhided' down Toad Mountain to Kootenay Lake, loaded onto barges, and towed by the steamer "Idaho" south up the Kootenay River to Bonner's Ferry. Here it was transferred to freight wagons headed for Kootenai Station on Pend d'Oreille Lake and finally carried by the Northern Pacific Railroad to Butte. Transportation alone cost $57 per ton; consequently only the highest grade ore was shipped.

Rawhiding

Rawhiding was a common method of transporting ore from the mines down steep, mountainous terrain. A green hide of a steer or a cow was used; the legs and tail were cut off leaving a rectangular piece attached to a length of rope, turned hairside down and pulled tightly around the load.

Rawhiding trails were steep and easily became frozen and slick. The raw hides wormed their way around and over hillside obstacles. An experienced horse needed to be able to maintain a steady descent whilst keeping itself and the hide in the trough of the trail. Crude chain brakes were devised to reduce the speed of the rawhides travelling on extremely steep, icy sections.

The driver rode the rearmost hide controlling the horse by his commands. It was a very dangerous occupation. On steep descents all a man could do was to hold tight onto the lacings, shielding his face from the flying ice and snow and hope he would get to the bottom of the hill in one piece.

Development of the Silver King Mine

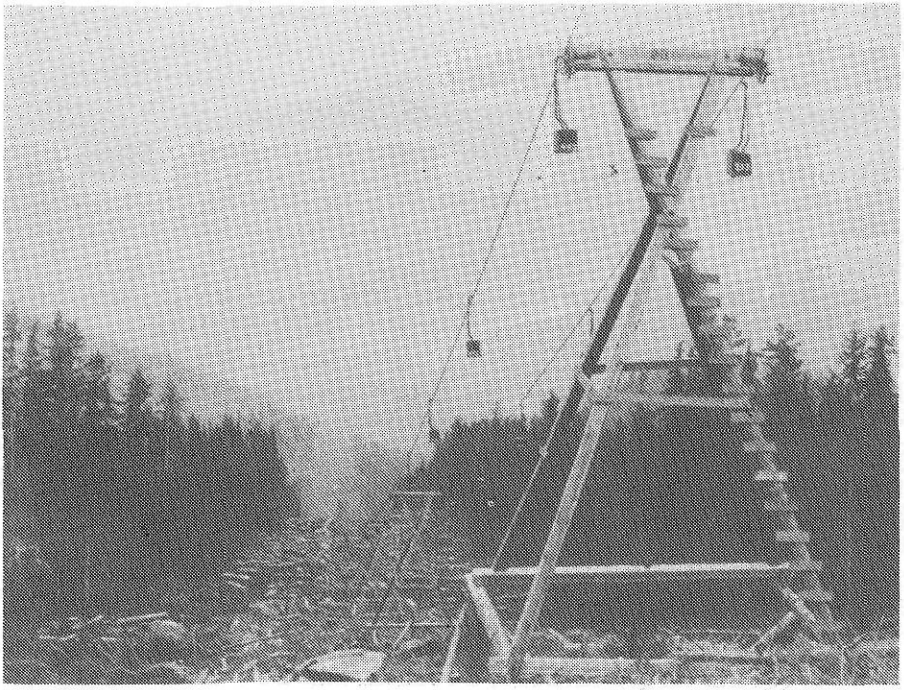
The early years of development at the Silver King mine were hampered by obstacles for the Halls. Shortly after the discovery a group from Victoria jumped the claim and a period of uncertainty followed as lawsuits were threatened, Meanwhile, an anonymous individual from Victoria became involved in the financial development of the Silver King. Later identified as R.D. Atkins, he offered to aid in the case of the claimjumpers and to continue financial assistance in return for a significant interest in the mine. An agreement was struck. In November 1890 the claim jumpers withdrew their lawsuit and although Atkins died shortly after, his interest passed into other hands.

The Silver King was a hard rock mine and as such required large sums of capital for development. By 1891 the Silver King was in urgent need of capital. McDonald visited Scotland and through the Kootenay Bonanza Co. managed to raise sufficient capital to finance operations for a further period of time.

However, by 1893, McDonald found himself back in Britain accompanied by Winslow Hall and Mr. Croasdaile (also involved in the

management of the mine) to seek a buyer for the company. After nine months a deal was struck and the original owners received the handsome sum of one million dollars for their claims. On October 31, 1893 the Hall Mines Co. Ltd. of England was registered in Victoria.

The formation of the Hall Mines Co. led the people of Nelson to believe that the potential of the Silver King would finally be realized. During the spring of 1894 new, modern machinery arrived at the Silver King — air powered drills, diamond drills, air compressing plant and ore crushing machinery. Extensive development of the ore bodies commenced and preparations began for the construction of an aerial tramway linking the Silver King to the proposed smelter in Nelson.



Looking down the gravity-operated tramway from the Silver King Mine to the Hall Mines Smelter in the present-day Rosemont area of Nelson. K.M.A. photo

Aerial Tramway

An aerial tramway linking the Silver King mine with Nelson had long been a dream to simplify the transportation of ore down Toad Mountain. This was finally realized when the last splice was made in the cable in October 1895. The Hallidie tramway was built by the California Wireworks Co. of San Francisco at a cost of $50,000.

The gravity operated tramway consisted of a 9 mile cable supported by 123 towers extending over a distance of four and one half miles and rising 4,500 feet from the smelter site in Rosemont,

Nelson, to the Silver King mine. 875 buckets each weighing 100 pounds were used to transport the ore. Seventeen men were required to operate the system which had a daily capacity of 10 tons.

The clatter and clanging of the tramway resounded throughout Nelson day and night. Problems were encountered as the cable tension was affected by temperature fluctuations and the entire cable was replaced the following year. It also became necessary to divide the tramway into two sections because of the long stretch of unsupported cable over Giveout Creek.

The Nelson Smelter

The prohibitive cost of transporting ore to American smelters, the introduction of lead ore tariffs entering the United States and the offer of a government bonus for building smelters in British Columbia encouraged the construction of a smelter in Nelson. Construction began on a site in the Rosemont area in October 1895. 25,000 bricks for the smokestack were brought from Colville to house the single water jacket-furnace. On January 14, 1896 the 100 ton smelter was blown in.

During the smelting process the ore was heated to a high temperature. The large quantities of coke required initially came from Wales and later Vancouver Island. Limestone, used for flux, came from Kaslo. The heavy metal sank to the bottom of the furnace and ran continuously into a large, brick-lined settling pot with two lips. The valueless slag drained from the upper lip into an iron-lined flume where the glass-like slag crumbled and shattered and was then swept away by a stream of water outside making the dump yards for the CPR. Meanwhile, the metaliferous matte eventually filled up the settling pot and ran out along a solid iron gutter to a series of matte moulds on a carriage.

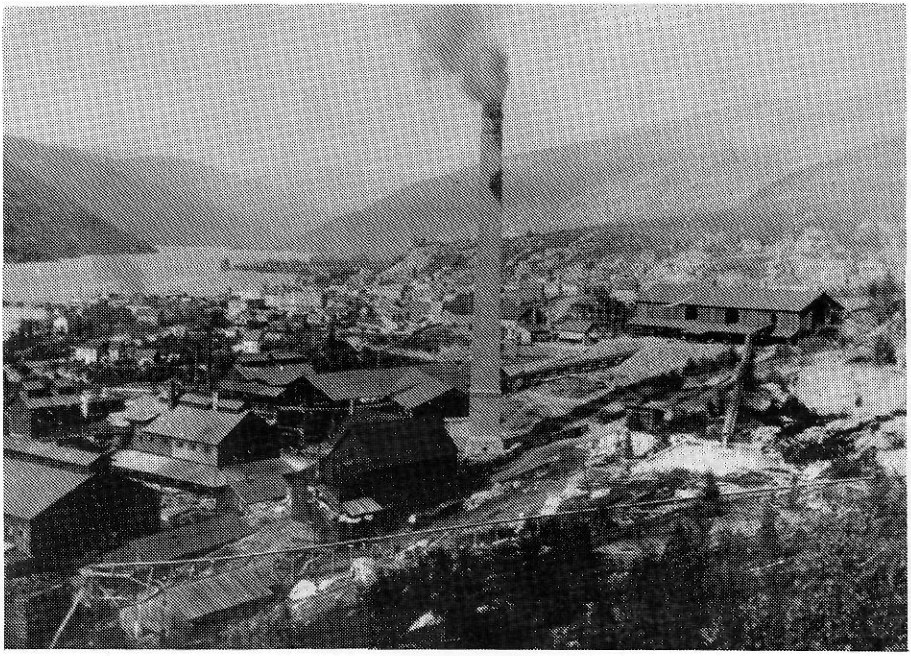
After cooling, the matte was crushed and bagged for export. Seven tons of ore were reduced to one ton of matte yielding 900 pounds of copper, 300 ounces of silver and 1/2 ounce of gold.

A second larger furnace, a roaster and a reverberatory plant were added in October 1896. The refinery enabled further reduction of the matte to a product called 'blister copper' containing 98 per cent copper. This was then exported to Swansea, Wales and Liverpool, England for separation of the metals by an electrolytic process.

By 1897, intermittent production at the Silver King forced the smelter to handle custom ore and the copper stack was converted into a lead stack to utilize the ores from the Slocan. Competition from the smelter at Trail ultimately forced the closure of the Nelson smelter in 1907.

On September 11, 1911 Nelson witnessed its greatest fire ever when the smelter burned down. It was believed to have been the work of the 'Firebug' who had undertaken a spate of burnings

throughout Nelson. The intense light of the burning smelter enabled many of the locals to read their newspapers long after sunset. Only the smokestacks remained, dismantled in the 1920's.



Looking East over the Hall Mines Smelter: The first shipment of copper blister matte left Nelson June 28, 1897 via the C.P.R. in Revelstoke en route to Wales.
K.M.A. photo

Transportation

In 1886 the West Kootenays were extremely isolated. There were three, long arduous routes that led to Toad Mountain. Access from the north was by the CPR to Revelstoke, by boat down the Arrow Lakes to the Kootenay River and through the dense forest to Toad Mountain. From the United States one could take the train on the Spokane Falls and Northern Railroad to Colville, continue by water to the Kootenay River and complete the trip overland and by ferry to 49 Creek and the trail to the mountain. The third option was to ride the Northern Pacific Railroad to Kootenai Station on the Pend d'Oreille, proceed on foot or by stage to Bonner's Ferry, take one of the small steamers down Kootenay River and Lake to the site of Nelson, and then bushwack up the mountain.

The potential for improving access from the United States attracted several American entrepreneners. Conflicts arose during the 1890's between Canadian and American interests as to which would exert control over the railroad and water routes.

As the settlement of Nelson developed, demand grew for improved transportation routes with the outside world. In 1890 the Halls lobbied effectively for provincial funds to construct a wagon

road between the Silver King mine and Kootenay Lake. The completion of the thirteen mile road in August 1890 allowed the use of pack trains to tote ore and supplies in place of the dangerous technique of rawhiding.

The major obstacle to efficient transportation along the Kootenay River was the series of waterfalls downstream of the West Arm. The construction of a twenty-eight mile railroad, by the Columbia and Kootenay Railway, in 1891, linking Nelson and Sproat's Landing (Robson), represented a significant step in the development of transportation links to the area.

In 1891 the introduction of the S.S. Nelson on Kootenay Lake and the S.S. Columbia on the Columbia River and the Arrow Lakes by the Columbia and Kootenay Steam Navigation Co. provided a direct route between the CPR in Revelstoke and the Great Northern Railway at Bonner's Ferry, Idaho.

D.C. Corbin completed the Nelson and Fort Sheppard rail line in 1893, further expanding connections with the United States. This line linked up with the spur line of the Spokane Falls and Northern Railroad that had been driven through the Colville Valley to the British Columbia border.

The increased diversity of transportation routes opened up trading and communication opportunities for citizens of Nelson and promoted accessibility to various smelters in the United States for the production from the mines.

Freighting supplies in to the Silver King via the 13-mile wagon road which the government built to replace the steep and dangerous pack trails in 1890.

K.M.A. photo

Working Conditions

The exciting tales of gold and silver rushes tend to disregard the realities of miners' lives. Miners lived in isolated camps facing the dangers of the wilderness. Underground working conditions were dangerous and many men died from lung diseases, dynamite explosions and rock falls.

Initially all mine work was carried out by hand. Ore was obtained by drilling holes in the rock face, using a hammer and drill steel, inserting dynamite in the holes and blasting the ore free. Ore was loaded into ore carts using picks and shovels and driven out of the mine along narrow gauge track.

Miners wore heavy wool clothes called 'diggers'. There was no protective clothing — no hard hats or safety glasses in those days. The only available light was provided by the traditional miners' candles which were worn in their hats.

Power drills were first used at the Silver King in 1894 and were powered by huge air compressors. Early drills were nicknamed 'The Widow-maker' — dust and rock particles accumulated in the men's lungs, often resulting in death. Later steam drills alleviated the problem somewhat.

Miners not only faced harsh environmental conditions; they were also subject to the fluctuations of metal prices. These factors, reinforced by the gradual development of labour organizations in British Columbia during the late 1890's, paved the way for the development of miners' unions.

The Eight Hour Day

During the spring of 1899 a strike of a somewhat different nature affected the mines of the West Kootenays — a labour strike. Provincial legislature had introduced an amendment to the Metaliferous Mine Act stating: "No person shall be employed in any metaliferous mine for more than eight hours in every twenty-four hours."

The mine owners were outraged. Anger was directed specifically at the Minister of Mines, John F. Hume, who was also the provincial representative for Nelson. They asserted that he had concealed his interest in labour legislation whilst canvassing as a candidate. They argued that a reduction from twenty to sixteen hours of labour would necessitate three shifts a day and result in a 20 per cent reduction in productivity. Moreover, many of the mines were not paying dividends and could ill-afford such a burden.

Represented by their organization, the Silver-Lead Mines Association of British Columbia, a delegation was sent to lobby Hume in Victoria for the repeal of the law. The government agreed not to enforce the legislation, and the delegation returned to Nelson. Much bitterness ensued when they were met by the Provincial Inspector of Mines, prepared to enforce the Act.

The Association announced that commencing June 1st, a reduction in hours worked would be matched with a reduction in wages from $3.50 to $3.00 a day for skilled miners and other workers accordingly.

On 17 May, 1899 the Nelson Miners' Union was formed and 260 men joined. A union already existed at Rossland and others sprang up in Ymir, Sandon and Silverton. On June 1st, many of the miners struck. Although the majority of the mines in the Nelson district continued to operate, most closed in the Slocan. Strike breakers were imported and a party of special constables was brought into Ymir. A bitter fight developed.

A provincial enquiry, launched by the government in an attempt to break the deadlock between the mine owners and the strikers proved to be fruitless. The strike continued until March 1900 when the mine owners conceded to pay $3.25 a day to the miners.

Although the Silver King mine had remained open, despite a reduction in the workforce from 200 to 130 men, the loss of the ores from the Slocan significantly reduced the output at the smelter. It closed temporarily in March and reopened in August under the control of the new company.

The battle between the miners and the mine owners was to be the first of many conflicts that would characterize the mining industry during the following years.

Life On Toad Mountain

During the 1890's the rough shelters on Toad Mountain gradually gave way to more permanent structures as families moved up to join the men working in the mines; a settlement called Fredericton grew up. Priscilla Bissett lived in Fredericton during the late 1890's and recalled some of her childhood memories. They lived in a house converted into an apartment of four rooms and facilities were basic; no cupboards or closets, no plumbing, although there were electric lights. Fresh milk and vegetables were not available, meat was brought from the cook's house and a reliable can-opener was a must. Provisions came up by pack train and, during heavy snow conditions, in the buckets of the tramway.

In 1896 the Hall Mines Co. built a splendid boarding house for 300 men; the event was celebrated by a dance. The price of a bunk-bed was $26 a month and an extra dollar a day bought a double-bedded room.

Nelson being a long wagon road journey away, visits tended to be restricted to special occasions such as July 1st. Working hours were long and entertainment was sparse. A visit by a travelling troupe was greeted with great excitement and the tables in the dining room of the boarding house would be pushed together to provide a stage for the dancing girls. At first, liquor was forbidden in the camp although the roadhouse, a few miles down the road, undoubtedly attracted many miners especially on pay day. Although

strictly forbidden, some of the men would catch a ride on the tramway after a visit to the bars in Nelson.

Sometimes an energetic clergyman would climb the steep trail to celebrate a church service. There was no doctor on the mountain and accident victims were driven to Nelson. Dr. Borden, an early practitioner, recalls being summoned to the Silver King one Christmas Eve to treat a serious accident involving a dynamite explosion. Children did not attend school until 1900 when a log cabin was converted into a schoolroom for twenty pupils.

Yet there were always the hazards of the wilderness to face; avalanches, wild life, forest fires. Indeed, a forest fire swept across the mountain in the early 1900's destroying the boarding house leaving the miners with only the clothes in which they stood.

When large scale operations began to decline at the Silver King so did the settlement of Fredericton. Today, only the odd cabin timber or a few household remnants remain as memories of the community which lived at the Silver King.

Nelson

In 1886 one log cabin, belonging to Arthur Bunting, stood in the vicinity of the site that one day would become Nelson. After the discovery of the Silver King, between 300 and 400 men camped in shanties along Ward Creek during the winter of 1887-88. By 1889 there were 100 dwellings and a few commercial establishments, but Nelson was a primitive place to live in those early days.

Between 1891 and 1895, mining developed and the town acquired a more permanent character; frame buildings were constructed and various businesses sprang up to serve the growing population. Nelson was incorporated as a city in 1897 and a more diversified industrial base developed. The period 1896-1914 witnessed the establishment of many of Nelson's impressive civic buildings.

The demise of the Silver King did not spell death for the city — a fate that befell many other mining towns. Numerous other mines were productive, agriculture and forestry developed in the region, and Nelson had established itself as a regional centre and a focal point in the transportation network. Today the legend of the Silver King lives on in terms of its industrial, economic and social impact.

Demise of the Silver King

By 1900 the famous Silver King mine was facing serious problems: — a depletion of ore; a slump in the price of silver; United States tariffs on lead ores; competition from the Klondike gold rush; the eight hour day and the subsequent closure of the Slocan mines; the growth of local smelters in the Kootenay and Boundary regions and the rise to prominence of the Trail smelter.

By July 1900 the London share price of the Hall Mines Co. had slumped to an all time low and the mine and smelter had temporarily closed down. The Hall Mining & Smelting Co. acquired the assets

and liabilities of the old company and the mine re-opened later that summer.

After 1902 only small scale operations continued at the Silver King under a series of contract leases. When the Nelson smelter closed its doors in 1907 ore was shipped to Trail. In 1910 a Pacific coast syndicate acquired many of the claims, including the Silver King, on Toad Mountain. The destruction of the smelter the following year foiled any plans to process the lower grade ores. The properties then passed into the hands of the Consolidated Mining & Smelting Co. (Cominco) in 1912. Attempts to rehabilitate the Silver King ended with the outbreak of war in 1914 and the subsequent scarcity of men and capital.

The Silver King was one of numerous claims to be staked on Toad Mountain and the surrounding area. Many others were highly productive and helped to fuel the wealth of Nelson — California, Athabasca, Granite-Poorman, Royal Canadian, Majestic, Starlight — these were just a few of the names that made the West Kootenays famous.

In the mid- 1960's the Silver King was again explored. Some new ore was found and preliminary plans were made to re-open the mine, but for unknown reasons it remained closed. In the last years of the century, geologists are once more exploring the mine. There are strong indications that more rich ore bodies remain to be discovered at the silver King.

Geology

The copper-silver deposits found on Toad Mountain were the result of volcanic activity that occurred millions of years ago. About 250 million years ago a giant super continent called Pangea broke up and the North American land mass began moving westwards. British Columbia did not exist then as we know it today. During the next 100 million years North America collided with a series of small land masses resulting in the formation of the mountain ranges, now spanning British Columbia from Vancouver Island to the Rockies.

The first collision culminated in the uplift of the Columbia mountains which included the Selkirks, Purcells, and Monashees. In addition there was volcanic activity such as the volcanic eruption at Rossland and subsurface intrusions eg. the Nelson batholith.

The Nelson batholith was a massive intrusion of molten magma from a great depth that occurred approximately 164 million years ago. Over time the magma cooled slowly and crystallized into a pinkish coarse-grained rock called grandodiorite, a type of granite. Erosion has exposed parts of the batholith.

Hot mineralizing solution seeped from the batholith, invading the surrounding rocks, often altering or replacing the original rock minerals. This process has been responsible for many of the rich mineral deposits discovered throughout the West Kootenays.

General view of the Silver King Mine and settlement on Toad Mountain, 1899.
K.M.A. photo

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