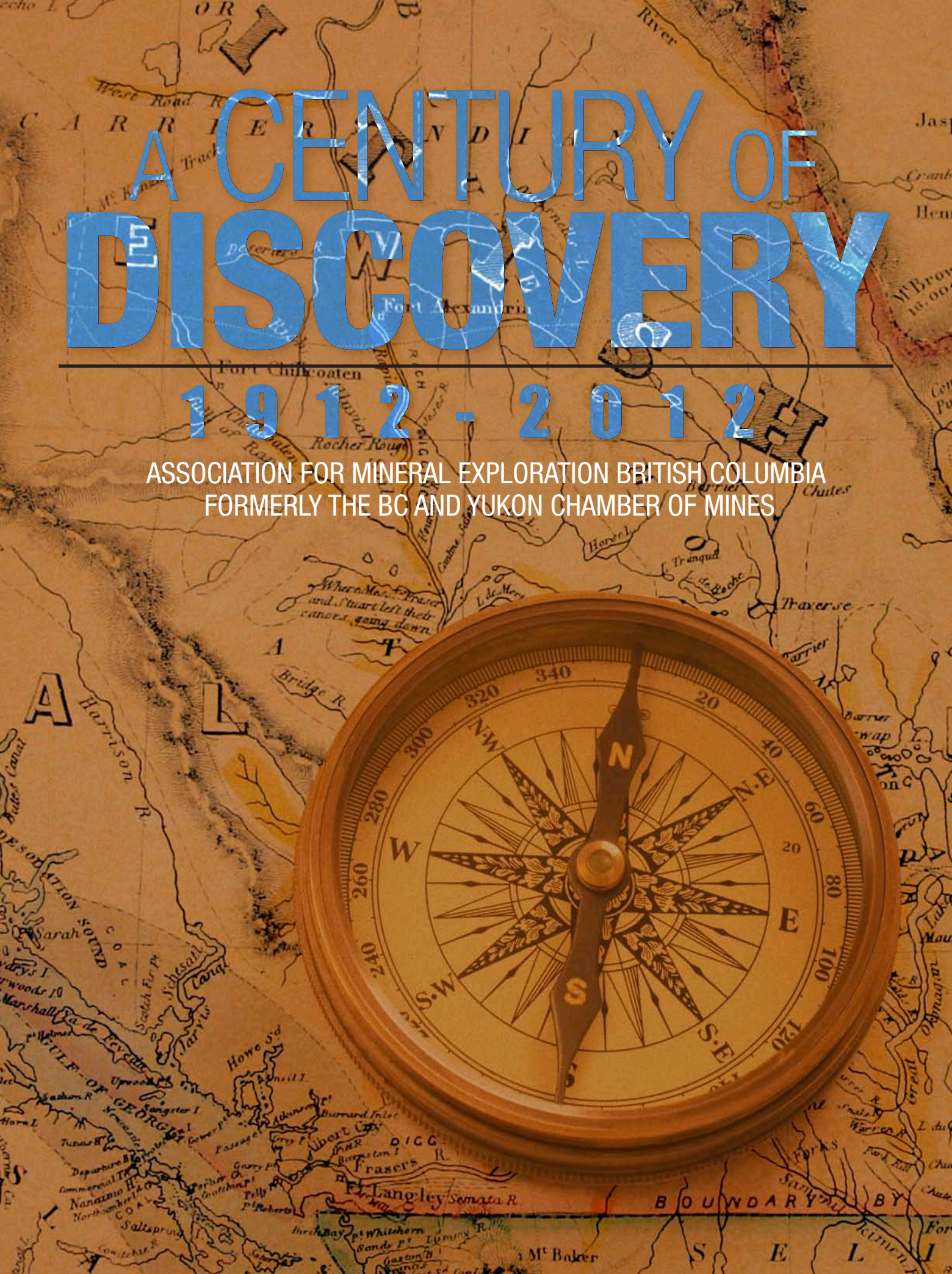
A CENTURY OF DISCOVERY

1912 - 2012

ASSOCIATION FOR MINERAL EXPLORATION BRITISH COLUMBIA
FORMERLY THE BC AND YUKON CHAMBER OF MINES



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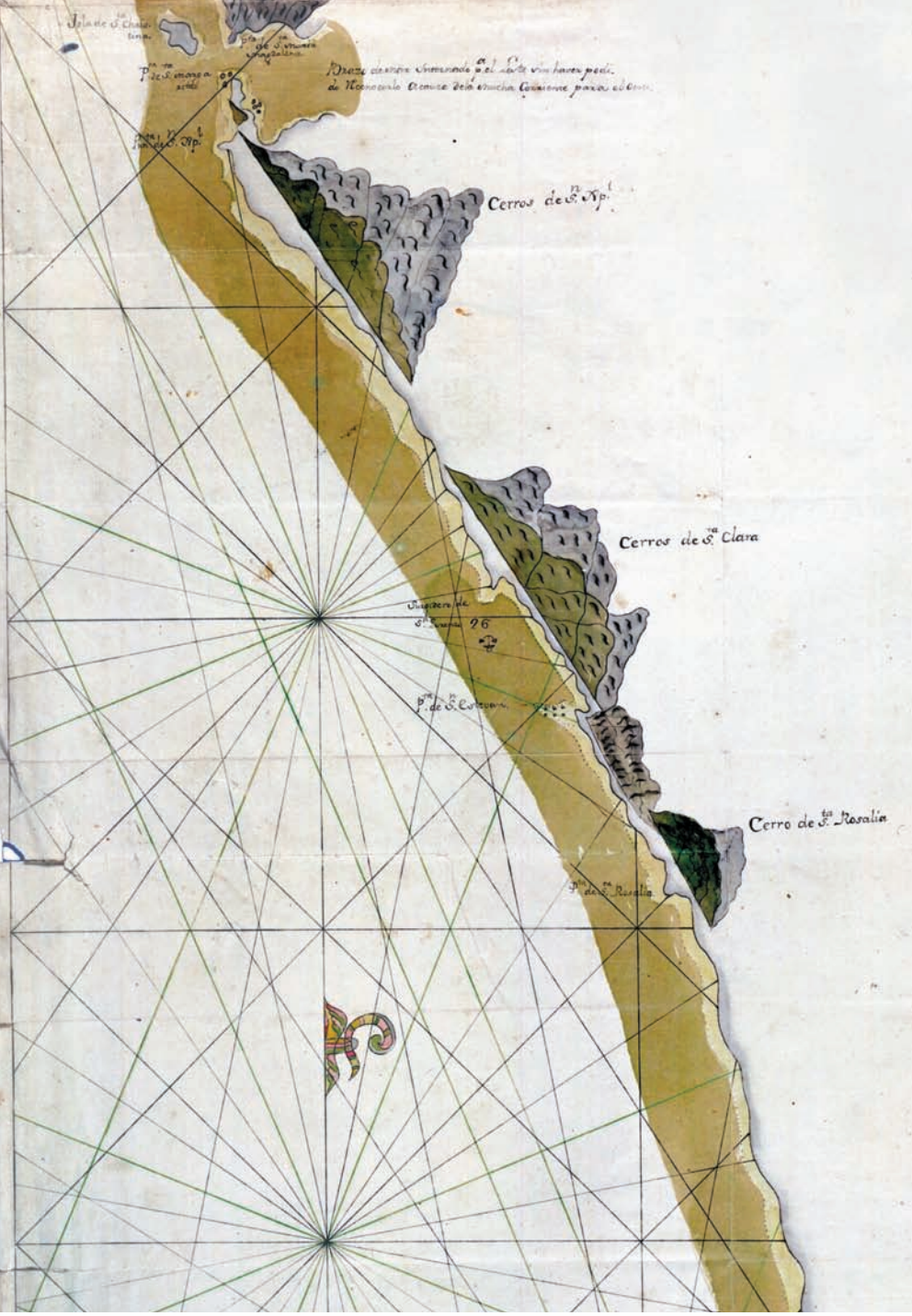

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THE NORTHERN MINER
THE GLOBAL MINING NEWSPAPER

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What's in a Name?

By Vivian Danielson

The Association for Mineral Exploration British Columbia (AME BC) is the successor of a mining industry association that has changed its name many times since it was founded in 1912. It began as the "Vancouver Mining Club," then became the "Vancouver Mining Club and Bureau of Information," and ended the year as the "Vancouver Chamber of Mines." The Chamber was renamed the "BC Chamber of Mines" in 1921, became the "BC & Yukon Chamber of Mines" in 1945, and was renamed AME BC in 2005. The most recent change was made to reflect the association's primary role, which is to support the mineral exploration industry in Western Canada, as its predecessors have done for almost a century.

For many people, AME BC will always be the "Chamber," as it was known for most of its history. I confess to being one of those people, having witnessed its remarkable growth and progress over several decades. But at the end of the day, the name of the association isn't as important as the role that it plays, the causes that it supports, the events that it influences, and the lives that it touches.

The Chamber has touched many lives, including mine as a 1988 "graduate" of its Prospectors' Training Program, which inspired and helped ground my career as a mining reporter. The Chamber has always been a "home away from the bush" for prospectors, a role that AME BC continues to uphold, mindful that prospectors discovered most of the deposits later developed into major mines in BC and Yukon. And over the years, though good times and especially in lean times, it has helped thousands of people find employment in mining and mineral exploration.

The Chamber has influenced many transformative events in Western Canada, with a few examples being its early recognition of the importance of large but low-grade porphyry copper deposits and the usefulness of geochemical and geophysical techniques in mineral exploration. It has supported the evolution of the gold-mining industry, the search for a more diverse range of metals and minerals, and the development of roads and infrastructure into remote mineral-rich regions.

In more recent times, the Chamber and AME BC have championed the evolution of the industry to one that is socially and environmentally progressive, supportive of Aboriginal partnerships and engagement, and the safest of all heavy industries. The annual Mineral Exploration Roundup continues to serve as a popular venue to learn about new discoveries, new geological theories and advanced exploration techniques.

AME BC and the Chamber of Mines have always been non-political, which is no easy task in a region known for its volatile politics. It would be impossible to recount a century of mining history without relevant political context. This is, after all, an industry that has been buffeted by political and social change for the past century, from its early days to the recent phase of global expansion. Yet throughout all this, the Chamber and AME BC have remained consistently credible and professional.

AME BC will soon release "*Into the Mountains,*" a more detailed and multi-faceted chronicle of its history than is possible in this issue. It comes highly recommended.

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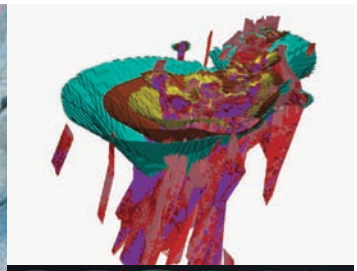

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Vision and Shared Purpose

By Gavin C. Dirom, President and CEO, AME BC

Mineral exploration and mining have shaped the history of British Columbia for more than 150 years, starting with the gold rushes of the 1800s, the early coal mines and the first discoveries that established the hard-rock mining industry. The prospectors and miners who built the industry and developed a base economy for the province faced challenges every step of the way — rugged terrain, lack of roads and rail, cyclical commodity prices, difficulties raising capital — and a steady stream of new regulations and government policies that often hindered their efforts.

But these hardy and skillful pioneers also had a vision of what their industry could become, and so in 1912, an industry association was formed. The founders — a group of forward-looking mining men of "recognized technical and practical experience" — were seized by a shared purpose, to foster mineral exploration, development and mining in British Columbia.

The history of the "Chamber of Mines," now known as the Association for Mineral Exploration British Columbia (AME BC), mirrors the history of the industry it has served for the past century. The challenges were many and no less daunting, but a shared vision of what the industry could be led to new ideas, innovative solutions and continual progress.

This 100th Anniversary publication chronicles the hard and dedicated work, decade by decade, of members and volunteers who made AME BC one of the most respected mineral exploration and development advocacy organizations in the world.

Since joining AME BC in 2008, I have personally reflected on the evolution of our industry since 1912, and since my grandfather served in the capacity of Chamber President from 1963 to 1964, and my father as a Board Director in the 1990s. What's clear is that the Association has always been a strong leader and advocate for progressive industry practices, sound government and economic policies, and building new partnerships. Prospecting and mining, for example, were once tagged as relatively unsafe industries. Today mining is the safest heavy industry in BC, a testament to the commitment of industry and government efforts over many decades. For a variety of reasons our behavior has changed and as modern mineral explorers and developers, we now strive to have a safe day, every day.

As the diversity of the AME BC committees, programs and initiatives exemplify, our industry today is much different than it was in 1912. And it will be different a century from now. Fortunately our industry has never feared change or taking responsibility. We've always been trailblazers, willing to lead and explore new frontiers with enthusiasm and optimism. British Columbia has a proud mining history that has created an industry cluster of world-class stature. Our visionary pioneers staked a claim for the future that benefited all of us. We must respect, understand and celebrate this heritage and continue to build an industry now that will do the same for the next generations.

Photo Credit: AME BC

A Golden Past

Prelude to a Province

"I would be quite willing, personally, to leave that whole country a wilderness for the next half-century but I fear if Englishmen do not go there, Yankees will."

Sir John A. Macdonald, Canada's first Prime Minister, on the West

Mining was an established industry in the Spanish New World long before the first European expeditions sailed up the Pacific Coast of North America on a fruitless quest to find a waterway to shorten trade routes to the Orient. Spain, aware of Russian traders moving down the coast from the Aleutian Islands, landed at Nootka Sound and planted its flag in 1774. Britain moved quickly to thwart its longstanding rival's territorial ambitions and gained control of most of the Pacific Northwest, along with control of the lucrative trade in furs and pelts.

Colonial Canada exerted its influence with the overland arrival of French *voyageurs* and British explorers employed by fur-trading companies. By the 1820s, the Pacific Northwest was largely controlled by the Hudson's Bay Company (HBC).

The Colony of Vancouver Island, created in 1849, was populated by HBC employees and a few British settlers in Fort Victoria. The mainland, known as New Caledonia, was a wilderness dotted with native settlements and HBC fur-trading posts.

Governor James Douglas

James Douglas, Chief Factor (agent) of HBC, became Governor of the Colony of Vancouver Island and nearby islands in 1851, with a mandate to establish settlement by British colonists of "good character" with sufficient capital to purchase lands and improve them. It proved to be a challenge. Many new arrivals left for areas where free land was being offered to settlers, or they slipped south to California, where a gold rush was in full swing. More than 100,000 people flocked to the then-Mexican province, attracted by reports of gold "free for the taking" in streams and rivers. The influx of fortune-seekers resulted in California becoming an American state in 1850.

HBC caught the gold bug as well, after "rich specimens" of gold found mostly by natives were brought to its posts for trade, initially from the Queen Charlotte Islands (now Haida Gwaii). A mini gold rush took place on the islands in 1852, when American miners landed on its shores, only to be rebuffed by hostile Haida.

A series of gold discoveries on the mainland followed, and in early 1858, news broke that HBC had sent its first gold shipment to the U.S. Mint in San Francisco. An estimated 30,000 fortune-seekers flocked to the Fraser and Thompson Rivers. Some were "Forty-Niners" from the California rush, including experienced Chinese miners, but most were novices with gold fever.

The largely American invasion prompted Douglas to take steps to entrench British sovereignty, impose law-and-order on the mainland and set up a system of miners' licenses and later, the office of Gold Commissioner to administer the industry.

In late 1858, the Colony of British Columbia was established, with Douglas also serving as its first Governor. (He resigned his HBC post at this time.)

The threat of American expansionism escalated with the Cariboo gold rush of the

1860s, as miners used north-south routes to stream into the new colony from neighboring states. By this point, the Canadian government was sufficiently alarmed to promise to build a railroad to unite the "Gold Colony" with other provinces.

British subjects, mostly from Victoria, opposed joining Confederation, whereas the largely American population on the mainland generally favored the idea.

A leading advocate of the Canadian union was Amor De Cosmos (or "Lover of the Universe"), a Victoria newspaperman-turned-politician. Born William Alexander Smith, De Cosmos was a critic of James Douglas and HBC's influence in the colony. He was instrumental in the union of Vancouver Island and British Columbia in 1866, and later, the merged colony's entry into Confederation in 1871, hence became known as BC's "Father of Confederation."

Historians agree that without this series of events, BC likely would have become an American state. De Cosmos became BC's second premier in 1872, but resigned two years later because of a dry-dock-funding scandal. He became increasingly eccentric and irrational and was declared insane in 1895.

Meanwhile, gold had opened the province. A wagon road connected Yale on the Fraser River to the Cariboo boom town of Barkerville. The 360-mile Dewdney Trail from Hope to the Kootenays was built before the national railway became a reality.

HARD-ROCK MINES

Gold rushes are typically short-lived, as BC would soon discover. By 1875, the easy pickings were gone. Placer miners headed to the West Kootenay region,

Gold panners in BC
Photo Credit: AME BC

BC's First Miners

Aboriginal peoples of North America were prospectors and miners long before the first Europeans came in search of new territories to settle. They mined chert (flint) beds, ochre, obsidian, native copper and silver and other rocks and minerals, which they used to make tools and artifacts for personal use and trade. They found the first nuggets that triggered the Fraser River and Klondike gold rushes and led colonial-era settlers to the first coal deposits mined on Vancouver Island. Yet they derived little benefit from the resource wealth reaped by newcomers on their territorial lands. Instead, their lands, traditions and sovereignty came under siege.

Indian family working on clean-up near Lillooet
Photo Credit: AME BC

In the early 1800s, native interaction with Europeans was limited to a few explorers and fur-traders, until the Colony of Vancouver Island was established in 1849. James Douglas, appointed Governor in 1851, negotiated 14 treaties with local First Nations during the next few years. He applied the same process used for settlement in Canada and other British Colonies, which was based on a 1763 Royal Proclamation recognizing Aboriginal tribes as sovereign nations and owners of the lands they occupied. Treaties were viewed as a lawful way to extinguish Aboriginal title so ownership could pass to the Crown or other parties

The treaty process was brought to a halt by the Fraser River gold rush of 1858, which brought an estimated 30,000 fortune-seekers to the mainland, known as New Caledonia. The Sto:lo tribes of the Fraser River called them "the Hungry People," as many came poorly equipped for their gold quest.

The influx was so rapid that native miners were pushed from the most productive areas on the Fraser and Thompson Rivers. Conflicts escalated as road construction, hydraulic placer mining and deforestation devastated salmon habitat. Smallpox and other diseases and social ills brought by the Europeans also took their toll.

New Caledonia became the Crown Colony of British Columbia in late 1858, with Douglas as its first Governor. Britain, occupied with Empire-building in India, balked at funding treaties for a wilderness outpost. Douglas shifted his focus to creating reserves, with input from tribes as to their sizes and locations. He also allowed natives to acquire land through the same homestead system used by settlers.

These policies were opposed by settlers who felt Douglas was too generous to natives, perhaps because his mother was a Creole and his wife's mother was Cree.

When Douglas retired in 1864, Joseph Trutch was appointed Chief Commissioner of Lands and Works, which included responsibility for Indian reserves. The British-born engineer had left California to join the Fraser River gold rush, where he had made his fortune building roads and bridges to the Cariboo. He was politically influential and made no secret of his disdain for natives and their culture.

Trutch dismissed the Douglas treaties on Vancouver Island as "made for the purpose of securing friendly relations" between natives and early settlers, "and certainly not in acknowledgement of any general title of the Indians to the land they occupy."

Trutch sided with settlers who felt many reserves were too large or wrongly placed. He downsized reserves in the Fraser Valley and central Interior, which led to protests by the Coast Salish and other mainland tribes. The "Chilcotin War," a confrontation borne of misunderstanding, further inflamed tensions between natives and settlers. Natives were also excluded from claiming lands through the homestead process.

Tensions eased when BC became a Canadian province in 1871, as the Dominion Government promised to assume "charge of the Indians, and the trusteeship and management of the lands reserved for their use and benefit." Ottawa was aware that BC's colonial Indian Policy was contrary to the treaty process used in other parts of Canada, and urged BC to adopt this process. Trutch argued that such treaties "would not work" in BC, and would undo "all that has been done here for 30 years past."

Trutch continued to promote this policy after being appointed BC's First Lieutenant-Governor. In 1880, he was appointed agent of the Dominion Government to supervise the transfer of lands for the construction of the Canadian Pacific Railway, which gave him immense power and prestige. His like-minded brother-in-law, Peter O'Reilly, was appointed Indian Reserve Commissioner that same year, a post he held for most of the decade. O'Reilly continued to reduce the size of reserves, which exacerbated

tensions between natives and settlers and led to more native protests.

The fiercely independent Nisga'a in northwestern BC refused to allow provincial land surveyors on their territories. Rumors that Okanagan and Shushwap tribes were planning to form a confederacy to regain lost lands caused concern among settlers.

In 1884, the native custom of potlatch was banned in an attempt to stifle protests. Soon after, missionaries were hired to "civilize" native children in residential schools.

Natives had no vote or voice in the political system. The last treaty of the century was signed in 1899, when Alberta's Treaty 8 was extended to the BC's Peace River region to resolve a native blockade threatening access to the Klondike gold fields.

In contrast to other parts of Canada where the treaty process had settled many land claims, BC made no effort to revive the treaty process in the early 1900s.

Native leaders sent petitions to Victoria and Ottawa, where they received plenty of sympathy but little else. In 1911, one hundred chiefs from across the province came to Victoria to meet with Premier Richard McBride. But he shared the view of his predecessors — that it would be "madness" to recognize aboriginal rights as this would bring settler rights into question.

BC's turn-of-the-century Indian Policy has been criticized by historians as "a disgrace," compared with other parts of Canada, and as "completely unenlightened."

As later pages will show, BC's "completely unenlightened" approach would have repercussions years later, particularly for the province's resource industries.

Miners and boy at entrance to coal mine near Port Alberni
Photo Credit: AME BC

where an American prospector was working the Blue Bell mine, a silver-lead outcrop found decades earlier by natives and HBC fur-traders.

BC's hard-rock mining industry took root in this mineral-rich part of the province, starting in the 1880s with the Blue Bell mine at Riondel, followed by silver mines in the nearby Ainsworth camp. The news attracted placer miners from the province and the Western States. The Canadian Pacific Railway (CPR), now a reality, brought in more miners and prospectors.

In the early 1890s, Osmer and Winslow Hall from Colville, Washington, discovered the Silver King mine in the Nelson area, which was developed into a rich silver-gold-copper mine with its own smelter named after the native Indian prospectors.

A railway was then built to Nelson, which opened up the area. New discoveries and mines were found in Ymir, Salmo, and in the nearby Sheep Creek gold camp.

Next, Eli Carpenter, a French-Canadian circus performer, and Irishman Jack Seaton made a high-grade silver discovery on Payne Mountain that put the "Silvery Slocan" on the map. More than 300 mines operated in the district, serviced by Sandon, BC's largest city in the early 1900s. It became known as the "Monte Carlo of the West" for its gambling halls and other "amenities."

A similar story took place in Rossland, BC's "Golden City" at the turn of the century following a series of gold discoveries on Red Mountain. A number of mines were developed, with the richest being the Le Roi mine. Copper discoveries established Greenwood

as a mining center of the Boundary region. Residents of these melting-pot communities often shared their Fourth of July and Dominion Day celebrations.

Gold was also discovered in the Hedley region of southwestern BC in the mid-1890s. The nearby Bridge River district emerged as a gold camp during this period.

BC's first hard-rock mines used techniques established earlier in colonial Mexico, including the "patio process" of mercury amalgamation to recover precious metals from free-milling ores crushed in *arrastras*, a crude water-powered drag-stone apparatus. They also relied on techniques used in hard-rock mines in the American West, such as "square-set" timbering to improve safety, compressed air to power drills and other equipment, and steam and hydraulic pumping equipment in mines that had to contend with heavy water inflows.

Metallurgists, including amateurs, improved the amalgamation process and reduced the silver recovery time to hours from the days required under the old patio process.

BC's smelting industry took root in the late 1800s, helped by the discovery of coking coal from the Fernie district that powered the early smelters before hydroelectric plants were developed. Most smelters failed to live up to expectations or failed completely. One notable exception was a smelter built in Trail in 1895 by Fritz Augustus Heinze, a 26-year-old "boy wonder" copper baron from Montana. He also built a railway with a view to treating ores from the nearby Rossland camp.

The CPR coveted the railway, but was forced to acquire the smelter as part of the deal. The CPR then put Walter Aldridge in charge of the smelter and newly acquired mines in the Rossland camp and the St. Eugene mine at Moyie. The company formed to hold these assets, Consolidated Mining and Smelting Company (CM&S), subsequently grew into one of BC's most important enterprises.

The "Boy Wonder" Copper Baron
Photo Credit: Cominco/TNM files

KLONDIKE RUSH

Gold fever struck again as citizens of Canada and the United States learned of the latest gold discovery on the Klondike River in Yukon Territory. "GOLD! GOLD! GOLD! GOLD!" screamed the headline of the *Seattle Post-Intelligencer*, on July 17, 1897.

More than 100,000 people joined the stampede, with some believing that gold could be plucked from streams like apples from trees. Only 30,000 completed the arduous journey, which for most included a bone-chilling hike up the Chilkoot Trail.

A group of gung-ho entrepreneurs started building a narrow-gauge railroad from the Alaskan port of Skagway through the rocky coastal mountains to access the goldfields. The 110-mile White Pass & Yukon Route (WP&YR) reached Whitehorse in 1900, but never made it to Dawson, as the gold rush had lost steam.

The Klondike rush brought in hardy prospectors who later made discoveries in Yukon, and northern BC, notably the Atlin and Cassiar gold camps.

Many books were written about this era, notably Pierre Berton's *Klondike* and *Klondike: The Last Great Gold Rush*. Another was *The Klondike Stampede* by Tappan Adney, who describes the "motley throng" from every corner of the earth drawn by the lure of gold..."weatherbeaten, sunburned, with snow glasses over their hats, just as they came from the passes. Australians with upturned sleeves and a swagger; young Englishmen in golf stockings and tweeds; would-be miners in mackinaws and rubber boots, or heavy high-laced shoes; Japanese, Negroes — and women, too, everywhere."

The ladies were not all of ill-repute. Harriet Pullen, a penniless middle-aged widow baked and sold enough pies to start a freighting business over the White Pass

One Hump or Two?

The pioneer era was a time when it possible to execute an idea, no matter how bizarre, through sheer force of will, which is how camels came to British Columbia.

They came first to the US, where the US military conducted trials with two types of camels, the two-hump Bactrian variety from Central Asia, and the one-hump Dromedary type from the Middle East. The US Camel Corps was an initial success in the Southwest, where horses and mules had trouble in the inhospitable desert terrain. They were faster and could pack four or five times the normal mule load.

The camels had "flaws" that brought the experiment to an end, but not before a few entrepreneurs brought over more camels after hearing about their positive qualities.

Glowing reports about "pack camels" caught the attention of John Calbraith, then working on the construction of the Cariboo Wagon Road, and Frank Laumeister, a saloon keeper in Victoria. They bought two dozen two-humped camels, had them shipped to BC, and put them to work packing supplies to the Cariboo gold mines.

As it turned out, the Bactrian camels displayed the flaw that proved to be their undoing yet again. As John Manz recounts in *Camels in the Cariboo*, "They were totally incompatible with horses and mules, which had an unconquerable fear of the strange, cud-spitting beasts and would stampede at the first sight or smell of them."

A local newspaper reported: "They are considered the greatest failure of the season."

They were turned loose in the Cariboo, where the last surviving camel died in 1905.

and later buy a thriving hotel. Belinda Mulroney bought furs and other goods from native women and sold them to new arrivals. She used her profits to invest in six lucrative Yukon mines, confessing much later that she had hired a foreman "because it looks better to have it said that a man is running the mine, but the truth is that I look after the management myself."

The lure of gold rushes is a phenomenon that historians still struggle to explain, particularly as so few ever struck it rich. Berton, who lived and worked in the Yukon, observed that joining the Klondike was the dream of masses of people struggling to recover from a severe economic depression that started in 1893.

A NEW CENTURY

Mineral exploration became a more systematic and scientific exercise in the early 1900s, with the help of the Geological Survey of Canada (GSC) and the BC Geological Survey Branch, and a growing number of geologists and engineers.

A copper discovery on Britannia Mountain near Vancouver didn't attract much attention when it was found by a doctor and a local prospector in 1888. Mining engineer George Robinson saw its potential and looked for financial backers. After a few false starts, the project was acquired by the Britannia Mining and Smelting Company, which got the job done. The first concentrate was shipped in 1904, with the mine at full production a year later.

By 1912, BC's mining industry was well established, but not without challenges.

The province's coal mines, which began production in the mid-1800s on Vancouver Island, had a notorious safety record. Union leaders were making the rounds of mines, smelters, docks and railways and finding no shortage of disgruntled workers.

Speculation in railway construction had reached exuberant levels to the detriment of investment in basic industries such as mining. And where railways promised to go, land speculators weren't far behind. In 1911, for example, Kamloops was touted as "Canada's Los Angeles," and lots in Prince George sold for $10,000 apiece at auction.

Premier Richard McBride boasted at the time that "there is more railway construction going on in British Columbia than in any other part of the Empire…"

Amid rumbles of social unrest and warnings of an economic collapse, a group of concerned, forward-looking mining men formed an industry association in the fast-growing City of Vancouver, with a stated goal to "foster mining in British Columbia."

It proved to be a cause others would pursue into the next century. And so begins the 'back story' of the Association for Mineral Exploration British Columbia (AME BC).

BC's Forgotten Miners

Most Canadians are aware that Chinese laborers helped construct the Canadian Pacific Railway (CPR) connecting the new province of British Columbia with the rest of the nation. Often forgotten are the thousands of Chinese miners who arrived in colonial times, before the last spike of the CPR was driven in Craigellachie in 1885.

Chinese miners in the Fraser River Canyon
Photo Credit: AME BC

The first group of Chinese miners came mostly from California, including many pushed out of the 1849 gold rush by exclusionary laws. They made their way to the Fraser and Thompson Rivers in the mid-1850s, and later took part in the Cariboo gold rush of the 1860s. Another wave came from China, when news of the BC gold rush lured thousands to seek their fortunes in the fabled "Gold Mountain."

Racial prejudices of the times meant that Chinese miners were relegated to claims abandoned by European miners. They worked with great persistence and ingenuity, using rockers, sluices and hydraulic techniques to extract gold from areas others had abandoned. Those with few resources hand-washed rocks, panned for gold, or used blankets to capture fine gold in the weave and filter away rocks and gravel.

Some Chinese used their meager earnings to establish businesses or market gardens to service mining towns. The first Chinese community established in Canada was Barkerville in the Cariboo, where they made up more than half the population.

BC's gold rushes eventually lost their luster as only one miner in a thousand did well, with most barely eking out a living. Some miners returned home, but many Chinese stayed in BC, despite discriminatory practices that persisted for decades. They were soon joined by thousands of unemployed Chinese workers following completion of the CP Railway. This led to political pressure to restrict Chinese immigration, which was implemented through a "head tax." Despite such policies and employment restrictions, the Chinese community persevered and contributed greatly to building the province's prosperous economy and its inclusive multicultural society.

It is no small irony that China today plays a significant role in the development of BC mineral resources, as an end-user and through investments in mineral projects. The descendants of BC's "forgotten miners" would no doubt find some satisfaction in this.

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Miners in Rossland gold camp

Photo Credit: AME BC

1912 TO 1919

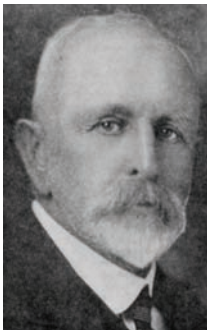
The Rocky Early Years

"From 1912, even as rail construction surged forward and money continued to flow into the province, clouds appeared on the horizon."

The West Beyond the West: A History of British Columbia by Jean Barman

The "Vancouver Mining Club" formed on April 23, 1912, by a group of mining men had a *raison d'être* that went beyond smoking cigars and socializing. Times had changed since mining was the undisputed economic engine of British Columbia.

The value of BC's mineral production at $32.4 million was described as "the greatest in the history of its mining" by Premier Richard McBride, who also served as mines minister. It was a "banner year" for copper, then averaging 16.3 cents (US) per pound, with the star performer being the Phoenix mine in the Boundary region. But Ontario had outstripped BC on the mining front and was also generating the most excitement with new hard-rock gold mines in the Timmins and Kirkland Lake camps. And raising capital was a challenge as real estate speculation offered better returns. Amid the 1912 construction boom, it was said that Vancouver had three times as many real estate offices as grocery stores,



Robert Hedley, first Chamber president
Photo Credit: AME BC

or "one for every telephone pole."

Vancouver Mayor James Findlay, who had a background in commerce and mining, presided over the first meeting of the Vancouver Mining Club in the Council Chamber of Vancouver City Hall. This was not unusual as many of the City's mayors had close ties to the industry, notably David Oppenheimer, the "Father of Vancouver," who made his fortune supplying miners in the California and Fraser River gold rushes.

The first order of business was to elect an executive board, ideally comprised of "well-known mining men of recognized technical and practical experience."

The first President, Robert Hedley, fit the bill. He was a metallurgist with international experience and a former manager of the Hall Smelter in the Nelson camp, which produced its first blister copper in 1896. He later grubstaked Peter Scott, credited with one of the first gold discoveries at Hedley in the Similkameen region. (Scott named the town in Hedley's honor.)

Arthur Clabon and H.B. Cameron were elected Vice-President and Secretary-Treasurer, respectively. Also elected was the Club's first executive committee consisting of B.A. Laselle, Leander Shaw, C. Scott Galloway, I.I. Rubinowitz, R.S. Lennie, R.D. Morkhill and W.H. Armstrong.

The fledgling club soon changed its name to the "Vancouver Mining Club and Bureau of Information." By the end of 1912, the name was changed yet again to the "Vancouver Chamber of Mines." Members agreed that it should be a "strictly non-political" organization providing services and advice "free to the miner and investor alike." They saw

a need for a respectable place for miners and prospectors to gravitate to "in the hope of attracting capital either to buy or develop his prospect."

In 1912, the Vancouver Stock Exchange was five years old and not yet a rival to the 15-year-old Spokane Stock Exchange, which specialized in listing mining companies operating in the American West. The Toronto Stock Exchange was founded in 1861, but its listings were dominated by banks and established enterprises. This was a time when most exploration projects were grub-staked by a syndicate of investors until they were shown to have production potential.

A classic example was the Phoenix mine near Greenwood in the southern Interior Boundary region, discovered in 1891 by a group of Idaho prospectors who were unable to develop the large, low-grade deposit. The project was revived after its ore was determined to be self-fluxing, thus reducing potential smelting costs. In 1896, a rubber-boot manufacturer from Granby, Quebec, formed a syndicate with Spokane mining promoters to develop the deposit. The Granby Consolidated Mining, Smelting and Power Company (later Granby Mining) was incorporated to develop the mine and build a smelter that was the largest in the British Empire after completion in 1910. Granby opened a second copper mine at Anyox, north of Prince Rupert, in 1912.

BC's Matriarch of Mining

When Delina C. Noel was presented the BC Governor-General's Centennial Medal on June 14, 1958, geologist Frank Joubin paid tribute to the trailblazing miner, metallurgist and entrepreneur in a guest column of the *Western Miner & Oil Review.*

"Few women, or indeed men, have made a greater contribution to the mineral development of that great province which has also been my home for the greater part of my life."

Following the presentation, 78-year-old Delina Noel returned to the bush where she was developing a copper-tungsten prospect near the Bridge River gold camp that she had helped pioneer in the early 1900s.

Born in Lillooet, on June 17, 1880, Delina Litalien-Laventure was the daughter of an "Overlander" who came West during the gold rush. She came to the Bridge River camp as the 20-year-old bride of prospector Arthur Noel. When she visited his "diggings," miners threatened to quit as women were believed to be "unlucky" at mines. Arthur Noel dared every one of them to do so, as "as Mrs. Noel was to have every privilege according any man in inspecting the working face."

Delina Noel holds the first gold bar from the Lorne Mine. Photo Credit: *Western Miner & Oil Review*

Nobody quit, and Delina became a skilled miner alongside her husband. By 1902, she was superintendent at the Bend 'Or 10-stamp mill and later the five-stamp mill on the Lorne property. She also acted as the "top man" in a shaft-sinking project.

When miners were in short supply during the war years, Delina Noel went to Vancouver to recruit men. "She was shown a pretty hopeless group of apparent 'ne'er do wells' from whom she shrewdly selected five candidates and brought them back to camp with her," Joubin wrote, adding that all five became expert miners.

Delina was shrewd in business, winning a settlement against a party that tried to "re-stake" her claims that later became part of the Bralorne mine. She was a skilled hunter, and wore a mink coat made of pelts that she had trapped herself. Later in life, she devoted much of her time to supporting the Girl Guides of Canada.

"RAILWAY MANIA"

The Chamber of Mines faced new challenges as the economy collapsed in 1913, along with BC's real estate market. Finances were discussed at the first annual meeting in October, when new President Lytton Shatford informed members of a deficit of $1,485.01 between receipts and expenditures. The Chamber sought a grant of $2,500 from Premier McBride, but the request was turned down, likely because the government was awash in debt related to its foray into "railway mania."

McBride won the 1912 election by promoting "the second installment" of his railway policy. What wasn't widely known is that BC had guaranteed $80 million worth of railway bonds, or 80% of the total promised investment. As the economy soured, railway companies found it difficult to sell bonds in London's money markets.

McBride tried to salvage at least one transcontinental competitor to the powerful CPR, and went hat-in-hand to Ottawa for help. But help came with strings. The failing lines, later merged with the Canadian National Railway, came under federal jurisdiction and BC lost its opportunity to control western freight rates.

The mining industry had problems of its own, with strikes at the Nanaimo coalfields dramatically reducing output. Copper production also fell, while slumping silver and lead prices forced the once-booming town of Sandon to appoint a receiver.

The value of mineral production fell to $30.3 million in 1913, and fell again to $26.38 million in 1914. The BC government again refused the Chamber's request for a grant. The Chamber considered closing its doors, but members opted instead to continue activities at a reduced level, including popular lectures by mining experts.

The economic downturn marked the end of the pioneer-era smelter-building spree, with only six of two dozen achieving some measure of profitability, led by the CM&S smelter at Trail. Labor unrest also escalated during this period. The Western Federation of Miners was organizing hard-rock miners and smelter workers across the province, adding to its strong base in the American West. Labour agitator Joe Hill had also visited BC in a bid to organize the docks and railways for the Industrial Workers of the World, a radical group known as the "Wobblies."

Vancouver Island coal baron James Dunsmuir, also BC's 14th Premier (1900-1902) and eighth Lieutenant Governor (1906-1909), was a leading force in the battle with organized labor at mines developed decades earlier by his father Robert Dunsmuir.

Labor problems escalated as the economy worsened. Large-scale riots broke out in the Nanaimo coalfields, where new owners of the Dunsmuir interests had tried to end a strike by using Chinese and Japanese workers. Strikes also hindered output at the Fernie coal-fields. Most union leaders on Vancouver Island were British, embittered by class divides of that society, whereas those on the mainland tended to be from the American West, where the battle was between workers and "robber-barons.'

Labor problems and strikes also affected the Britannia Mine, the Phoenix Mine and Smelter in the Boundary region, and the Anyox copper-gold-silver mine being developed by Granby Consolidated Mining and Smelting in northwestern BC.

WAR AND WOE

The outbreak of the First World War in 1914 eased labor tensions while escalating other fears. Premier McBride rashly bought two submarines from the US to "forestall a German attack." He was ordered to surrender them to the Canadian military as provinces weren't

allowed to have navies (they later proved unfit for service).

Metal prices rose in response to wartime demand, putting the Chamber on a sound financial footing by 1915. Members resumed efforts to exhibit mineral specimens for the purpose of attracting attention to BC's mineral endowment. The BC government again refused to financially support the Chamber, although modest assistance was provided by Vancouver City Council and the Board of Trade in subsequent years.

Reginald ("Dean") Brock, Chamber President in 1914, was recruited as a geological expert to assist the War Effort. He was succeeded by John Turnbull in 1915.

Tragedy struck the Britannia mine on March 21, 1915, when an avalanche killed 56 men, women and children in the Jane camp perched on the mountainside. A new safer town was built 2,000 feet lower down the mountain. By 1916, the mine was operating at a newly expanded rate of 2,000 tons per day in response to increased wartime demand for copper.

Premier McBride came under fire that year for "reckless" spending on railways; others in his administration faced allegations of selling public lands and timber licenses at low prices to speculators who were friends and supporters of the government. McBride resigned in late 1915, after more than a decade in power.

The mood for change and demands for political and social reforms resulted in a Liberal government taking power in 1916. But labor unrest continued, as did the war in Europe, despite America's entry into the conflict.

Mines Minister William Sloan described 1916 as "a banner year for BC mining," citing its total production value of $42.29 million. He noted that copper output accounted for "practically 50 per cent of the gross metalliferous production of the province."

A highlight that year was Canada's first production of refined copper from the first electrolytic copper refinery at Trail, operated by CM&S. Production of electrolytic zinc also began that year. The Trail complex of CM&S had already racked up a series of technological "firsts," including pouring Canada's first gold bar in 1897, and the world's first production of electrolytic lead in 1902.

Anyox Copper Mine site
Photo Credit: Anyox Hydro-Electric Corp.

Reginald "Dean" Brock
Photo Credit: AME BC

Nicol Thompson served as Chamber president from 1916 to 1917, during which time the value of BC mineral production slipped to $37.01 million. Mines Minister Sloan noted that "industrial troubles" were "more frequent and extensive than usual" in 1917, leading to reduced output in many areas. Mineral value rose to $41.78 million in 1918, despite an influenza outbreak that curtailed production in some areas.

The pandemic caused the death of hundreds of thousands worldwide. More than half of Allied soldiers who died overseas fell to the scourge and not to the enemy. North America was hard hit too, as the strain of flu was most deadly to those between 20 and 40 years of age. All businesses, including mining, felt the loss of young talent.

The industry suffered another blow in October 1918 when the *Princess Sophia* sank in Alaskan waters, taking 350 lives with her. Many passengers were involved in the mining industries of Alaska and Yukon, resulting in a tragic loss for these regions.

News of war's end was met with jubilation tempered with sorrow for the huge loss of lives. Against this backdrop, returning servicemen found civilian life disrupted by strikes and labor disputes. Socialist rallies increased, with some leaders enamored by the Bolshevik Revolution in Russia. The violence-plagued Winnipeg General Strike of 1919, which called for "One Big Union," added to the tense labor climate.

POST-WAR TRANSITION

The Chamber persevered in these challenging formative years. Members lobbied to keep the Vancouver assay office

Barkerville mining fraternity, early 1900s
Photo Credit: AME BC

from closing, proposed a tax on foreign crude oil to protect the coal industry, and urged the government to support the creation of an iron and steel industry on the Pacific Coast (Ontario, Quebec and Nova Scotia had established steel industries at this point). While not always successful, the Chamber was now a strong and respected voice for BC's mining industry.

In 1918, the Chamber received more enquiries than in any previous year from all parts of Canada, as well as from the United States and Great Britain. The Chamber sponsored twenty lectures by professors from the University of British Columbia that year, all "well-attended," which further enhanced its status and reputation.

A new silver-lead discovery in the Keno Hill camp in Yukon attracted excitement in 1918, as the area had been known for its high grades since the early 1900s.

The war's end ushered in a period of transition for the Chamber and the industry, with the value of mineral production falling to $33.29 million in 1919. Mines Minister Sloan observed that the post-war period had left "many great nations with very large stocks of copper on hand." But he also reported that the opening of new camps in the Portland Canal [Stewart] district was an "outstanding event" that year.

Stewart was first explored during the Klondike gold rush and had a short-lived boom in 1910, but the new excitement was coming from a high-grade gold-silver mine discovered and developed by Premier Mines.

Gold was making a comeback, helped by the use of cyanide (first introduced in BC in 1898) to improve recoveries and lower production costs. The Pioneer gold mine was producing in the Bridge River area. In the Hedley camp to the south, the Nickel Plate gold mine had achieved a cumulative profit of $2 million by 1919.

With gold regaining its luster and production increasing, the Chamber of Mines had reason to be optimistic about the industry's future as it looked to a new decade.

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Photo Credit: AME BC

THE TWENTIES

Years of Expansion, Innovation and Exuberance

"There is no cause to worry. The high tide of prosperity will continue."

Andrew W. Mellon, US Secretary of the Treasury, September, 1929

The Chamber of Mines expanded its horizons in 1920, sending delegates to industry conferences in Spokane and later other cities to boost awareness of BC's mineral potential and help the industry recover from the post-war decline.

The BC government expanded its park system that year to encompass Mt. Garibaldi, a large volcano in the scenic Coast Mountains. The Chamber sought assurance that mineral rights would be protected, as they had been in Strathcona Park, created in 1911, and Mount Robson Park, created in 1913. The same policy prevailed at Garibaldi Park, for the time being at least.

The vote was expanded to BC women in 1920, resulting in the first woman cabinet minister, Mary Ellen Smith, in the British Empire. The ruling Liberals prevailed on a road-building and public works platform, just as the Conservatives had prevailed a decade earlier on a railway-building platform.

The economy did not expand as hoped. Granby Mining closed its smelter at Grand Forks, along with its nearby Phoenix mine. But the value of BC mine production in 1920 was better than hoped at $35.5 million, which Minister William Sloan attributed to the "unexpectedly large" production of zinc, "entirely due to the Sullivan Mine" owned by CM&S.

Sullivan was transformed by the introduction of differential froth flotation, a standard method of ore recovery today for the selective separation of valuable metals in complex polymetallic ores. An in-house research effort led by innovative metallurgist Randolph Diamond from 1917 to 1920 resulted in Sullivan becoming the world's first large-scale differential flotation operation, successfully producing separate lead and zinc concentrates suitable for smelting. Diamond was inducted into the Canadian Mining Hall of Fame (1991) for this and other accomplishments.

Hand sorting ore at Trail Photo Credit: AME BC

The Vancouver Chamber of Mines changed its name again in early 1921, this time to the more inclusive "British Columbia Chamber of Mines." As the executive committee observed, the Chamber was the only BC organization "where the prospector, miner, operator, engineer and investor can meet on common ground."

But finances remained tight. Conditions grew so dire that the Chamber held a special meeting in mid-1921, to consider winding up the institution. Members opted instead to trim administrative expenses and seek as many new members as possible.

The value of BC mine production that

The Mine with 'Ghosts'

When the Bluebell mine on Kootenay Lake closed in 1927, old-timers felt that "old ghosts" would be put to rest. Discoveries in the 1950s revived it until 1971; today all that remains is a plaque noting a mine with "the longest history in the province."

Lead-zinc-silver showings at Bluebell were first identified by natives as a "source of musket balls" for fur-traders in the 1820s. Five decades later, American Henry Doan brought "rich" samples to George Hearst, father of William Randolph of newspaper fame. Hearst soon discovered that the samples were from a Colorado silver mine.

Mineral specimen from Bluebell
Photo Credit: Cominco/TNM Files

In 1882, American prospector Robert Sproule staked Bluebell, named for its nearby flowers. He sent his team for supplies while he remained on his claims for the period required by law. His men never returned. Weak and out of supplies, Sproule was forced to leave days before the deadline, but left a note explaining his absence. He returned the following spring to find that Thomas Hammill, a Cornish mining engineer backed by American interests, had re-staked his claims. He took his case to court and won, and won again on appeal. Hammill was branded a "claim-jumper."

Sproule didn't win much, as he was forced to sell his claims to the party who helped finance his legal costs, who in turn sold a partial interest to Hammill.

Hot-tempered Sproule was an obvious suspect when Hammill was fatally shot. He was convicted of murder, protesting his innocence all the while. It's still debated whether Sproule was guilty, or whether Hammill was a victim of "vigilante justice."

The project changed hands and was developed into a mine, mill and smelter in the late 1890s. Later, "the mine with the enchanting floral name" was operated by a French company led by Count Edouard Riondel. It changed hands again and ended up in Cominco hands for the last years of its life. The "old ghosts" are now at rest.

Only Count Riondel "lives on" in the town of 356 people that bears his name.

year was a disappointing $28.06 million.

"Europe is the world's metal market," stated Mines Minister Sloan. "With the unsettled conditions at the present time, Europe cannot buy our metals."

The Britannia mine closed briefly in 1921. One of its mills burned to the ground and later that year, a massive flood hit the town built on the banks of Britannia Creek, killing 37 people. Construction of a new mill and another new town began soon after.

BC began to recover in 1922 and 1923, helped by improved labour relations.

Premier John Oliver, a Liberal, lobbied the federal Liberals headed by Prime Minister William Lyon Mackenzie King to reduce "excessive" freight rates charged by the CPR and CNR, the only transcontinental railways (of four originally) still existing. His early efforts were not successful, so he launched a "Fight Ottawa" campaign.

"I have never advocated separation," the feisty Premier warned, "but if the grossly unjust treatment Western Canada is subjected to in favour of Eastern Interests is to be continued indefinitely, then I do not want to call myself a Canadian."

Ottawa took heed and its Board of Railway Commissioners slashed the mountain differential rate, which helped facilitate the trade and transport of western goods.

Metal prices improved too, particularly for copper, lead and silver. The "Silvery Slocan" benefited from higher prices, but still struggled with labor unrest.

Frank Woodside
Photo Credit: AME BC

The Chamber was in the black by 1922, able to sign a five-year lease for a new location at 438 West Pender Street. Frank Woodside, a charter member of the original mining club, was elected president that year.

Born in Prince Edward Island, Woodside came to the Rossland mining camp in 1896, where he became secretary of the Western Federation of Miners and was active in the "eight-hour-workday" movement. He came to Vancouver in 1903, made a name for himself in civic affairs and was a popular Alderman for 16 years.

One of Woodside's first acts as president of the Chamber was to attend a mining convention in Nelson, relieving an impression then noted as being "prevalent in the Interior," that Vancouver did not support them "as it should."

The Chamber helped prospectors by setting up a system to record information about prospects being offered for sale, in addition to offering training classes. The popular lectures series continued in these years of recovery, along with showcasing minerals at industry and public events, notably the Pacific National Exhibition (PNE) and a permanent display at "British Columbia House" in London, England.

The economy improved again in 1924. Mines Minister Sloan described prices for silver, lead and zinc as "excellent." The value of mine production rose to $48.70 million, despite a decrease in coal and coke due to a strike in the Crowsnest area.

UP, UP AND AWAY...

By 1925, the economy was on a tear, with a building boom under way for roads and real estate. Mines Minister Sloan reported mineral production valued at $61.49 million, citing "coal and building materials as important contributors." The value of mine production climbed to $67.18 million in 1926, smashing all previous records.

Mines Minister Sloan noted that BC was the leading silver-producing province of Canada that year, "beating Ontario, which had been number one for years." BC was also "the largest producer in Canada of lead, copper and zinc," he stated.

The star performer was Sullivan, then the largest silver-lead-zinc mine in the world. The Trail smelter was also the larg-

Remnant of an old paddlewheeler used to supply Yukon mines
Photo Credit: AME BC

est of its type in the world. Consolidated Mining & Smelting (CM&S) was a globally recognized leader in metallurgy and mining, helped by the efforts of Selwyn Blaylock, who climbed the ranks from assayer in 1899 to the board room in the 1920s. He recommended the purchase of Sullivan, helped introduce (with Ralph Diamond) advances in metallurgy, and improved employee relations. Blaylock was inducted into the Canadian Mining Hall of Fame in 1990.

CM&S launched another initiative in 1925, when it began assembling a fleet of bush aircraft to transport supplies and personnel to its properties, with some of the aircraft piloted by company geologists and mining engineers.

CM&S had the advantage of being owned by the CPR, which had sufficiently deep pockets to purchase modern equipment and weather industry downturns. The company also benefited from the early use of hydroelectric power, which allowed its landlocked, energy-intensive Trail smelting complex to be globally competitive.

The issue of mineral rights and parks resurfaced with a recommendation by the Automobile Club to create a provincial reserve excluding minerals along the Fraser River between Yale and Lytton. The Chamber fought the proposal, which would have excluded a highly prospective area that also was a birthplace of mining in BC!

The Chamber took a similar stance through representations to Ottawa after learning that mining people were experiencing difficulties while working in federal park areas. It also supported improved access into areas with strong mineral potential.

These efforts did not go unnoticed. *The Portland Canal News* servicing the Stewart camp praised the Chamber's role in supporting local exploration in an article entitled, "BC Chamber of Mines an Investment." The Chamber was now widely recognized for its role in establishing Vancouver as "one of the world's leading mining centres."

BC was Canada's top producer of silver, lead and zinc again in 1927, as well as the nation's largest copper producer. Granby's Anyox mine had grown with its own hydro power plant and smelter, Britannia was one of the largest copper mines in the world, and Copper Mountain near Princeton was an up-and-coming major producer.

In 1927, the Chamber spent $800 on advertising in London and other mining journals to increase awareness of BC's mineral potential, with "good results" in terms of attracting financing for local mining ventures. The Chamber sponsored lunch presentations where respected geologists and other experts put the spotlight on emerging mineral districts, such as the Stikine River and Dease Lake regions.

Thomas Elliott, a high-school graduate, was hired in the summer of 1928, a modest beginning to what would become a long and distinguished career with the Chamber.

The value of BC mine production reached $65.37 million in 1928, up from $60.72 million in 1927. Major mining companies had plenty of cash and were competing to acquire and develop mineral prospects.

The 1928 provincial election saw the Conservatives taking 32 of 48 seats under new Premier Simon Fraser Tolmie. With Conservatives also in power in Ottawa, Tolmie focused on the economy and a pro-business agenda.

By 1929, the mining industry was enjoying boom times. John Galloway, provincial mineralogist, reported that the value of mine production had reached $68.24 million that year, "a new high record in the history of mining in the province."

One exception was Rossland, BC's second-largest gold camp, under the control of CM&S (Cominco) at this point. The mines ceased operations in 1929, owing to rising costs, depleting resources and other factors, including strikes and labor disputes.

The Chamber was busy on many fronts in 1929. Information was provided to a growing number of visitors, including a representative of Mitsui Mining of Japan. A letter was sent to the federal government to protest a proposed new tax on stock trades, starting at a cent a share and rising to four times that for shares trading above $100. The Chamber felt the tax would adversely affect mining financing.

The executive committee endorsed a proposal to build a copper smelter on the Coast, pointing out that $20 million worth of ore was being shipped to the Tacoma smelter in Washington State by various mines, including Britannia, now the largest copper mine in the British Empire.

The Chamber also supported plans for

airline companies to expand service in the province as it was felt this would help mineral exploration, particularly in the North.

...AND DOWN WITH A CRASH

The last year of the "roaring twenties" saw records set in all of BC's major industries. The province had a record number of millionaires building mansions in cities and towns alike. Stock trading reached frenzied levels on the VSE, with a record dollar value of $133 million that year, although mostly flowing to oil and gas companies.

Wall Street was even more buoyant, as investors were able to borrow money to buy stocks on margin, usually 25% of their total value. The attraction for investors was the opportunity to invest in exciting new technologies of the day such as telegraph and telephone companies, electrical utilities, and mass-manufacturers of goods. As share prices rose, more people jumped into the market.

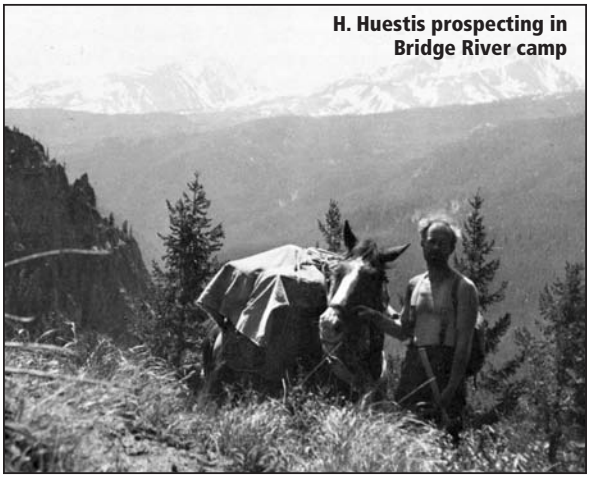
Collective debt levels soared as department stores offered consumers a tempting array of goods on a "buy-now, pay-later" plan, and businesses took advantage of easy credit to expand their businesses and/or acquire competitors.

Following a few days of jittery markets, share prices on Wall Street abruptly fell on "Black Thursday," October 24, 1929. Indebted investors panicked and dumped their stocks for whatever they could get over the next few trading days, sending markets into a tailspin and wiping out the paper fortunes of millions of investors.

"It came with a speed and ferocity that left men dazed," states a report of the event in the *New York Times*. "The bottom simply fell out of the market…the streets were crammed with a mixed crowd—agonized little speculators…sold-out traders… inquisitive individuals and tourists seeking a closer view of the national catastrophe… Where was it going to end?"

The market crash in turn led to the mass failure of over-leveraged and poorly managed companies, including banks and their brokerage arms. Capital contracted almost overnight, leaving consumers and companies struggling for survival. It took some time for governments to react on the policy front. When they did, they only made matters worse by imposing tariffs and regulations to protect domestic industries, which led to a drastic decline in foreign trade. Millions of people were unemployed as companies closed their doors and governments slashed spending.

BC's mining industry was not spared from the financial and economic meltdown. The Chamber of Mines faced a new decade with trepidation, uncertain of what lay ahead.



H. Huestis prospecting in Bridge River camp

Photo Credit: TNM Files

THE THIRTIES

The Depression Years

"During the thirties a new breed of prospector arrived on the scene. These were the fugitives from the hopelessness of the soup kitchen and relief camps…"

Walter Guppy, Vancouver Island prospector and author of WetCoast Ventures

Victor Dolmage, a consulting geologist formerly with the Geological Survey of Canada, was elected Chamber president during the worst economic downturn in Canadian history. BC was hard hit by the 1929 market crash, with mining and other primary industries struggling to survive as demand and prices for their products fell.

The first breadlines appeared in Vancouver in late 1929, yet the BC government was initially reluctant to do much except hope for a quick recovery. Those hopes were dashed as unemployment doubled, then tripled, triggering mass demonstrations.

Canadian Prime Minister Richard B. Bennett saw government relief as an assault on "individual initiative" and the free enterprise system. Prairie farmers responded by hitching their horses to engineless automobiles called "Bennett buggies."

The Chamber, meanwhile, set up committees to deal with issues of concern to its members: finance; exhibitions and conventions; lectures; legal and legislative matters; subscriptions and memberships. One goal was to reduce high rental charges on placer mining leases causing distress for miners in the Cariboo region.

Victor Dolmage
Photo Credit: AME BC

The government tried to help the industry by offering free assays to prospectors, which the Chamber described as "a valuable aid to this important group of men."

The depressed economy dominated the Chamber's annual meeting in 1931. That year was one of many scorching summers that pushed Western farmers to the brink. Hordes of unemployed "rode the rails" to BC in search of work, or failing that, a milder climate. Some BC mayors complained that their towns and cities were being overrun by "foreign bums and hoboes."

Governments were soon forced to provide relief, with 30% of workers unemployed and even higher rates in rural western areas dependent on resource exports. BC ended up with 237 relief camps housing one-third of all "relief men" in Canada. Residents were known as "Royal Twenty Centers," as they were paid twenty cents a day and the camps were administered by Ottawa's Defence Department.

Ottawa was warned that "communists" would use the camps as recruitment centers, which proved true. One resident said it was easier to read "Marx and Lenin" than "girly magazines" at the time. But the prevailing view was best expressed by another who said: "The great majority of us are just out of school, and we want work… [or] some measure by which we can maintain our self-respect."

GOLD 'RELIEF'

The Chamber noted that mining, specifically gold-mining, was providing "more than its share of employment." One reason

was gold's fixed price of US$20.67 per ounce, which, combined with low labor costs, made many mines economic. The Chamber received many enquiries about gold prospects in the province in the early 1930s, including from New York and other financial centers, as well from citizens.

"It is obvious there is a 'boom' in gold mining under way!" Chamber minutes note.

Interest in placer mining was also strong, prompting the Chamber to put a "rocker" on display for inspection by interested parties and print 1,000 copies of a booklet entitled *Elementary Methods of Placer Mining*, at a cost of less than $100.

The Chamber later noted that the booklet "proved most useful" to many unemployed men. The Chamber lobbied the federal government to provide further assistance to prospectors, "so as to keep him active in the field throughout the years, instead of having him lying idle in the cities, living on relief."

BC's gold camps became a magnet for the unemployed in 1934, when American President Franklin Roosevelt raised the gold price to $35 per ounce (from $20.67) to avert a run on US banks. Citizens had lost faith in the financial system and were cashing in dollars for gold. Roosevelt's new law made this practice illegal and as a result, the government became the sole owner of gold. This marked the dismantling of the gold standard in the US (Britain had abandoned the gold standard in 1931).

That same year, Ottawa tried to impose a 10% tax on the value of gold deposited at the Mint or exported, but reduced the tax after strong protest, including from the Chamber. Ottawa also allowed a three-year exemption on taxes for new mines coming into production, a program that was helpful during these tough years.

Gold camps across Canada roared to life as thousands flocked to find work. Among them was Franc Joubin, who found himself in a hobo camp in the Bridge River gold camp near Lillooet. The orphaned teenager was hired to build a rock garden for the mill manager, a fortuitous event that would lead to a long career in the camp.

The Bridge River district had come a long way since the days that Arthur and Delina Noel and others mined gold-bearing veins using stamp mills and arrastras.

The Pioneer mine was the first to be developed on a larger scale by mining engineer David Sloan in the 1920s. In 1931, Austin Taylor took a gamble on the Lorne mine, renamed it the Bralorne mine and built a 100-ton-per-day mill, the same size as the Pioneer mine at the time. Consulting geologist Ira Joralem, familiar with the Pioneer mine property, extended existing workings at the Bralorne (formerly Lorne) mine through a major fault. These new workings soon hit a bonanza vein.

Pioneer Gold Mines paid its first dividend of three cents a share, or roughly $50,000, for the quarter ended March 31, 1931. The Bralorne mine was not far behind, paying its first dividend in 1934. The mines enjoyed some of their best years from the early 1930s to 1941, generating jobs and economic benefits when they were needed most.

NEW DISCOVERIES

The Cariboo region, still an active placer gold camp, took on a new dimension with the first successful development of a lode gold deposit in the region.

Cariboo Gold Quartz Mining Company (CGQM) created a huge buzz with its 1930 gold discovery on Cow Mountain near Barkerville. The company was headed by prospector Fred Wells, who had believed since the 1920s that quartz-bearing nuggets in the area indicated a buried deposit. Described as "an opinionated prospector, devoid of geological knowledge," by a Department of Mines official, Wells convinced Vancouver doctor W.B. Burnett to back his efforts. Soon after forming CGQM in 1927, Wells found the mother lode, which led to the creation of a new town named in his honor.

Wells displayed his first gold bricks in the Birks storefront in downtown Vancouver, which added to his fame and inspired others to take up gold prospecting.

High-grade gold was found near the Zeballos region on Vancouver Island by unemployed fishermen and others who turned to prospecting for survival.

How "Spud" got his Name

Herman Hagerman Huestis (1907-1979) was born in Fredericton, NB, to a family with a prospecting tradition. It was his dream to "go West," as his grandfather had done in the gold-rush era. And he did just that in 1926, finding work at a cattle ranch near Merritt. He left in the spring to go prospecting, yet somehow charmed the annoyed rancher into hiring him back in the fall, setting a pattern for many years.

Highland Valley caught his attention, but other prospectors told him that companies had "looked and left," so he headed east, and got lost prospecting in Alberta. After five days of surviving on a few crackers and weak tea, he stumbled into a small town and walked into a café, where he saw a bowl of steaming potatoes on the counter.

"I'll take those," Herman said, before devouring the feast.

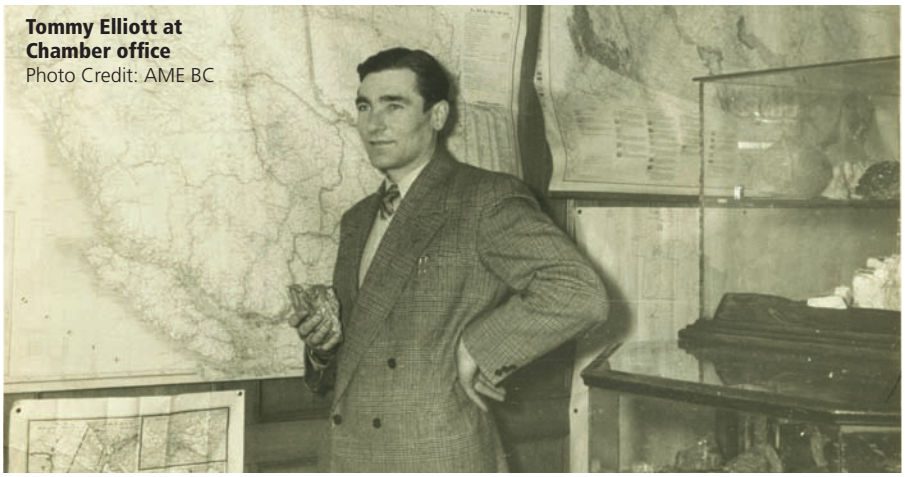
"Go right ahead, son," said the startled cook. "I don't know your name, so I'll just call you Spud."

In the 1930s, Spud "rode the rods" to prospect and find whatever work he could, spending time in the Bridge River region, the Cariboo and Vancouver Island.

"Prospecting is a no-risk business," he often said. "You can't go broke, when you are broke!"

Spud continued to prospect, except for a short stint as streetcar conductor in the early 1940s, achieving some success near Mountain Lake in the NWT, and at Nansen Creek in Yukon. He found graphite deposits in Nigeria before a bout of malaria forced him home, and a uranium prospect near his family's New Brunswick homestead.

But he never forgot the Highland Valley, where the dedicated prospector found the greatest success of his life and a new name — **"British Columbia's Mr. Copper."**



Tommy Elliott at Chamber office
Photo Credit: AME BC

Several mines were developed; the most famous being the Privateer, acquired by Conwest in 1938.

With mining a bright spot in the depressed economy, the Chamber's mineral exhibit at the Pacific National Exhibition (PNE) attracted much interest. The Chamber also distributed another 1,000 copies of *Elementary Methods of Placer Mining*. Another positive development occurred when the government amended BC's *Placer Mining Act* so unemployed men could stake placer claims free of charge.

Harry Warren began a long association with the Chamber and its prospectors training program in these years. The 28-year-old former Rhodes Scholar had just joined the University of British Columbia as a lecturer, after earning his PhD in 1929.

In the early 1930s, reports of rich radium and silver discoveries in the Great Bear Lake area of the Northwest Territories captured the attention of prospectors and others seeking employment. But it was gold, including placer gold, that dominated enquires to the Chamber, with up to 150 men, many from the prairies, visiting the offices and seeking information each day. Mining lectures were also well attended.

Much excitement was generated in 1933 by reports of a new gold discovery up the Yellowknife River, followed by another discovery across Yellowknife Bay in 1934.

A staking rush transformed the sparsely settled region into an overnight boom town of tents and log cabins. CS&M (Cominco), which had its own bush planes, staked a gold property that was developed into the Con gold mine, which poured its first gold in 1938. The Northwest Territories' first gold mine went on to produce more than five million ounces of gold under Cominco ownership until 1986. Not far away, a gold property held by Giant Yellowknife Gold Mines was poised for initial production.

"WORK AND WAGES"

BC's political landscape shifted with the first Depression-era election in 1933.

Thomas ("Duff") Pattullo of the Liberal Party campaigned against the embattled Conservatives on a platform of "Work and Wages." A former Gold Commissioner in the Yukon during the Klondike rush, Pattullo believed BC's future lay with its rural regions. Also known as an "Ontario Grit," he was amenable to social reform in the spirit of America's "New Deal" then being promoted by Franklin Delano Roosevelt.

Pattullo decimated the Liberals and become BC's 22nd Premier. But across the aisle was a brand new party, the Cooperative Commonwealth Federation (CCF), formed by a coalition of socialist parties and a forerunner of the New Democratic Party (NDP).

Unemployment, protests and labor disputes escalated as Premier Pattullo battled Ottawa in hopes of getting financial assistance for his promised reforms and public works programs. He made the case that BC was maintaining one-third of Canada's unemployed. Ottawa responded modestly and grudgingly while expressing concerns about BC's debt and spending programs, including $4 million for a new bridge across the Fraser River from New Westminster that today bears Pattullo's name.

The BC government supported efforts to encourage mining in remote areas, but unemployment remained a festering problem. In 1935, more than 1,500 men from BC relief camps rode boxcars to join the "On to Ottawa" trek and take their demands for "Work and Wages" to Prime Minister Bennett.

In 1935, the Chamber noted that an estimated 100,000 people had visited its mineral exhibit at Vancouver's PNE. The Chamber was also busy that year preparing a program and a display of minerals featuring gold ores to boost the industry's profile during Vancouver's Golden Jubilee.

"Mining Week" held July 20-25, 1936, turned out to be one of the most popular attractions of the Golden Jubilee. Among the many highlights was a "Gold Rush Parade" arranged by Louis LeBourdais, an amateur historian who served the Cariboo district as a Member of the Legislative Assembly for 12 years.

As the Chamber minutes note: "It was a fascinating sight to see the team of oxen, stage coaches and pack trains being driven down Georgia Street past the old Medical Dental building!" Other popular events and highlights were an operating placer mining exhibit in Stanley Park, a rock-drilling contest with teams from various mining camps, and an outdoor dance with old-time music, also held in the park.

After the festivities were over, the Chamber got back to business and was pleased by the success of its campaign to boost the distribution and circulation of Canadian silver dollars. Retailers and department stories were urged to support the program and help establish silver as a medium of exchange, thereby benefiting the industry.

In 1937, the Chamber marked its 25th year of mineral exhibits at the PNE.

HINTS OF WAR

By the mid-1930s, political events in Europe, notably the rise of Adolph Hitler and his Nazi regime, raised concerns that the years of tenuous peace might come to an end.

The Chamber also watched federal and provincial politics closely for legislative changes that might affect the industry, including proposed amendments to BC's mining laws that required a prospector to blaze four lines around the boundaries of each claim stakes and place a post at each corner of such claim staked. Prospectors and others pointed out that it would be difficult, if not impossible, to blaze four straight lines around the boundary of a mineral claim in rugged mountainous areas of the province. The Chamber agreed with this position.

An election in 1937 saw Pattullo's Liberals returned to power. Part of his platform called for opening up new areas for resource development and improving access with new roads and infrastructure. When he caught wind of an American plan to build a road to Alaska, he was determined that it should go through the province.

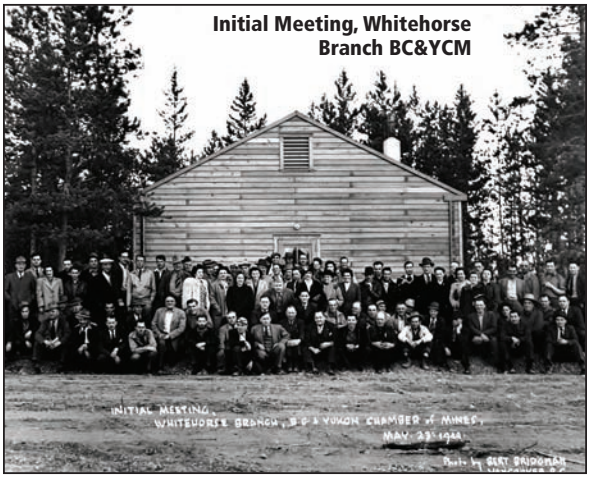
The Chamber urged the BC government to open up lode mining training camps based on the same lines as government-operated placer training camps. Within a few years, a number of lode training camps were operating in the province.

The Chamber did what it could to place as many prospectors, miners and others with companies and projects across the province. But the Depression continued, with protests in many parts of the province, including a violent clash in Vancouver.

A bitter strike took place at Granby's Anyox mines, when wages were reduced in response to low copper prices. After a vital overseas contract was cancelled in 1936, the board decided to close the site, selling it to CM&S. A fire swept through the town six years after the mines closed — a sad ending for one of the finest mining town in BC, complete with medical, educational and recreational amenities.

Events in Europe were increasingly ominous. The possibility of another European war loomed even as the King and Queen of England toured Canada in June of 1939.

The 1920s had ended with an economic meltdown, and by the end of the 1930s, it was obvious than the "Old World" political and social order was about to swept away. Hitler invaded Poland on September 1, 1939, resulting in declarations of war against Germany by France, Great Britain and its Commonwealth allies, including Canada.



Initial Meeting, Whitehorse Branch BC&YCM

Photo Credit: AME BC

THE FORTIES
Years of War and Peace

"It was the nation and the race dwelling all around the globe that had the lion's heart. I had the luck to be called upon to give the roar."

Winston Churchill, war-time Prime Minister of the United Kingdom

The Chamber of Mines entered the 1940s committed to doing whatever it could to help increase the supply of essential metals and minerals for the War Effort. With financial resources scarce at the time, this commitment began by mobilizing and motivating the talents and energy of a fledgling industry to a greater cause.

Gomer Jones was elected president in 1941. Along with manager Frank Woodside, he worked hard to convince the federal government that draglines used in placer mining should be allowed to enter Canada free of duty. The Chamber emphasized the need to produce more gold for the War Effort and was pleased when Ottawa agreed. A number of American companies moved units into Canada, mainly to BC and Yukon.

Robert Hedley, the Chamber's founding president, died that year, marking the end of an era. The "Duff" Pattullo era also came to an end, with his Liberal Party reduced to a minority in 1941. Pattullo refused calls for a coalition government, but was forced to resign later that year. A Liberal-Conservative coalition, with Liberal John Hart as Premier, was formed to block the CCF from becoming government.

Another migration to the West Coast took place, this time people seeking work in shipbuilding, warplane and other war-related manufacturing enterprises.

The Chamber was forced to migrate too, after a large insurance company sought its ground-floor offices at 402 West Pender Street. New premises were found at 790 Dunsmuir late that year. No sooner was the move made when enquiries began pouring in from parties seeking information about BC's minerals. George Bateman, Ottawa's Metals Controller, advised the Chamber that it was interested in "chrome, manganese, tungsten and tin, and we are also interested in molybdenum, mica of sparkplug quality and of course, vanadium and mercury should not be overlooked."

The Chamber also received enquiries from companies on the route of the Alaska Highway, as they wanted to send prospectors to explore the newly opened lands.

"HELP WANTED"

Unemployment dropped dramatically and swiftly in BC, as wartime jobs increased in the province. More than 30,000 people worked in BC shipyards during their peak of production. Women were recruited to work in airplane plants and other critical industries. Housing shortages became chronic in Vancouver and its suburbs. By 1943, BC had the highest per capita income of all Canadian provinces. Even hard-core socialists were putting their shoulders to the wheel to help "fight the fascists."

The mining industry, on the other hand, found it increasingly difficult to find manpower. An estimated 1,000 workers left mines in rural areas for higher paid jobs in urban shipyards and factories.

The federal government put forward legislation to encourage mining companies and syndicates to grubstake prospectors willing to search for vital wartime metals. They could spend up to $5,000 a year that would not be subject to income tax. The response was positive and the Chamber was kept busy

that winter registering prospectors who were prepared to join the search.

CM&S contributed greatly to the War Effort in these years, with contracts to supply zinc and lead to the British government. The company also opened the Pinchi Lake mine near Fort St. James to produce mercury needed for munitions. While "top secret" at the time, CM&S also supplied heavy water to the US government, then engaged in developing the atomic bomb. The company was chosen as it had an electrolytic hydrogen plant, a natural concentrator of heavy water. (The plant later supplied heavy water to a uranium facility owned by the Canadian government.)

The Chamber wrote a letter to Canada's Prime Minister, William Lyon Mackenzie King, protesting an order prohibiting gold mines from hiring new men until base metal mines had "sufficient manpower to work at full capacity." The Chamber pointed out that many gold mines were conducting prospecting programs in search of war metals. The order was rescinded so that gold mines could hire needed personnel. Another positive development, this one from the provincial government, was a promised moratorium on assessment work on claims held by prospectors.

The Chamber did not exhibit its mineral collection at Hastings Park as the PNE grounds were being used to house Japanese before sending them to internment camps in the Interior. Fears of a Japanese assault on the West Coast had reached such a feverish pitch that no political party of the day opposed the harsh measure. The Chamber's mineral collection was stored in a building so badly deteriorated that it had to be bulldozed to the ground, minerals and all.

Fortunately the Chamber had acquired a fine collection of fluorescent minerals for the purpose of demonstrating fluorescent lamps used to detect scheelite, tungsten ore. Many prospectors purchased the lamps to look for such deposits, as they were needed for the War Effort, with some success reported.

"B2 BEER"

Research and development (R&D) were essential to the War Effort, so it's no surprise that Norman Bell Keevil (Sr.) took part in a battery of projects during his years with the University of Toronto as assistant professor of geophysics. In addition to being Canada's only full-time instructor on geophysics at the time, he maintained laboratories in the university's physics, botany and history departments.

Keevil's interest in geophysics later led to exploration success and the formation of a new mining company. But in the mid-1940s, geophysics was an arcane curiosity.

In a 1987 interview with *The Northern Miner*, Keevil recalled that his first class consisted of nine Straight-A engineering students who took part in his weekend geophysical consulting, as "that was the sort of thing that would interest them."

During these years, much of Keevil's research focused on the emerging nuclear industry. He was also credited with building Canada's first mass spectrometer, now widely used to analyze the composition of various metals and compounds.

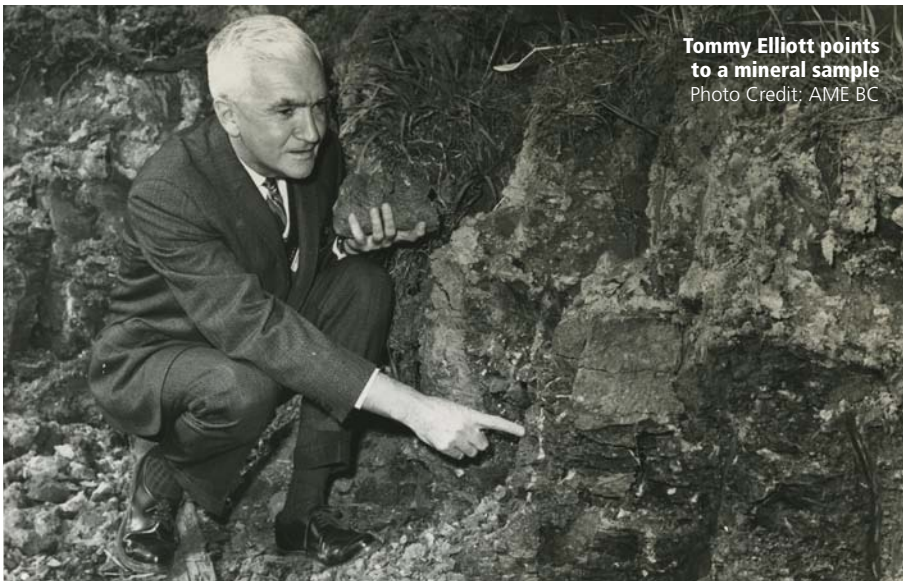
Another wartime-era project involved studying the characteristics of vitamin B2 (riboflavin), and how it aids vision in sunlight, a subject of interest to airplane pilots.

Keevil found that even very dull sunlight would leach out substantial amount of B2 in milk left in glass bottles. As beer is another source of vitamin B2, he set out to determine the quantity found in the brew. Donations from breweries were solicited.

Patriotic breweries donated enough cases of beer to block one of the lab walls.

"All we really needed was a thimble-full," Keevil confessed.

"My students thought it was one of the best research projects they ever had."



Tommy Elliott points to a mineral sample
Photo Credit: AME BC

The Chamber met with the BC government to discuss potential for a steel industry. Steel-making was well established in Hamilton and Sault Ste Marie, Ontario, and in Sydney, Nova Scotia, which employed coke-fired blast furnaces. Western Canada had no facilities, hence the effort to see if it was feasible to bring together the necessary large quantities of raw materials, namely iron ore and coking coal.

THE NORTH BECKONS

A stream of Canadian and international senior companies visited or sent scouts to BC and neighboring Yukon during the war years and found a welcome reception, which led to the perception observed by the Chamber that "if a prospector makes a new discovery, he will have no difficulty in disposing of his claims."

By the mid-1940s, BC was booming. The building of the Alaska Highway had converted Dawson Creek from a sleepy village to a thriving town. Prince Rupert was transformed from a fishing centre to a supply center for American bases in Alaska.

Yellowknife was coming into its own as a gold-mining camp, with the Con and Giant mines as the dominant producers. Con was stilled owned by CM&S, but Giant had been acquired by Frobisher Explorations, a forerunner of Falconbridge, in 1943.

In 1940, Neil Campbell, a CM&S geologist who made a name for himself by mapping the Con gold deposit, was sent to examine a small, well-known lead-zinc occurrence at Pine Point that was widely believed to be worthless. He saw potential for significant lead-zinc resources based on a new geological theory and convinced CM&S to back his efforts. He directed an exploration program that led to the discovery of new deposits, spawning a new mine and the community of Pine Point.

A major development for the BC Chamber of Mines took place in late 1944, when the executive passed a resolution to change its name to the British Columbia & Yukon Chamber of Mines, effective at the next annual meeting on January 9, 1945. The change of name was well received, given the close ties of the regions, and approved at the annual meeting.

PEACE AND PROSPERITY

When the European war ended on May 8, 1945, followed by Japan's surrender in August, BC was a transformed by another influx of people, additional to the thousands of returning servicemen. The population soon hit the one-million-mark, triggering a housing boom, a baby boom, and an infrastructure boom.

Peace, progress and prosperity had replaced war, depression and deprivation.

The BC & Yukon Chamber of Mines, as it was now called, turned its attention to helping servicemen find work in the mining industry. The prospectors training school continued during this period, and before long it was reported that 300 fully trained prospectors were "now in the hills."

The Privateer gold mine at Zeballos was added to the list of original discoveries made by prospectors — in this case a

Frank Woodside examines gold exhibit
Photo Credit: AME BC

group of fishermen-turned prospectors. The best known of them, Ray Pitre, had attended the Chamber's training classes.

As the role of the airplane changed during this period to civilian from military use, the industry was quick to realize its usefulness in mineral exploration. The Chamber took part in a meeting of the Canadian Air Transport Board and stressed the need to provide air transportation to the industry at a reasonable cost.

Arthur Jukes was elected president of the Chamber in both 1945 and 1946, with Mel O'Brien elected to this post in 1947.

The post-war economy gained strength as oil-and-gas discoveries attracted a flow of investment dollars into the Peace River district. Reports also surfaced that an aluminum industry might be established in northwestern BC.

BC's forestry industry grew in response to the demand for new housing, with the pulp and paper industry benefiting from the availability of cheap hydro-electric power, then in a phase of expansion. Logging roads were opening up previously inaccessible areas, which led to tensions as loggers claimed that "free miners" were "interfering" with their operations. The Chamber set up a special committee to investigate the situation, an effort that would continue for years.

NEW MOMENTUM

BC's post-war mining industry gathered momentum with the influx of large amounts of capital from across North America. The list of companies setting up offices in Vancouver in these years includes Kennecott Copper Corporation, Noranda Mines, New Jersey Zinc, Conwest Exploration, Ventures Ltd., and Hudson Bay Mining & Smelting, among many others.

Conwest was founded in the 1930s by mining engineer Fred Connell, who later served (without remuneration) as Canada's Metals Controller during the war years.

In 1945, Connell and legendary mine-finder Thayer Lindsley of Ventures Ltd. (later Falconbridge) decided to investigate the possibility of reviving the dormant Keno Hill silver camp in Yukon's Mayo district, which had produced 44 million ounces of silver and 96 million pounds of lead from 1920 to 1941, when high costs forced its closure.

With the Alaska Highway opening up the Yukon, and armed with a positive geological opinion, Connell and Lindsley set up United Keno Hill Mines as a partnership to revive the dormant silver mines. And they did just that, drawing up plans to build a new road to improve access to the mines, and resuming production in 1947.

In 1948, Howard Firth, secretary of the Dawson City, Yukon branch of the Chamber, visited the Chamber accompanied by famous aviator Wilfrid "Wop" May. The First World War flying ace, who once fought the famous "Red Baron" in the skies over France, became a bush pilot after the war and founded an airline that later became part of Canadian Pacific Airlines. The purpose of his visit was to seek the Chamber's support for improvements to airports at Mayo and Dawson City, as well as speedier mail service to mining centers. The Chamber endorsed these recommendations.

In 1948, restrictions on prospecting for and developing radioactive minerals in Canada were lifted. The federal government took this step in order to stimulate new discoveries, promising a price at a minimum rate of $2.78 per pound of U_3O_8 guaranteed for a five-year period. *A booklet, Prospectors Guide for Uranium and Thorium Minerals in Canada,* was published for distribution to interested parties. The American government offered a reward for uranium discoveries in that country.

The Chamber received many requests for information on the subject, and also

acquired a complete collection of radioactive samples. Within a short time, the Chamber noted that "many prospectors are becoming active in the search for new deposits and the demand for Geiger counters is increasing at a rapid rate."

The Chamber predicted in 1948 that a "base metal boom" was likely, given rising prices. Lead reached 21.5 cents per pound, zinc was selling at 15.5 cents per pound, copper was 23.5 cents and silver was approximately 76 cents an ounce at the time.

Mel O'Brien was again elected president in 1949. A representative of Kennco Exploration, a subsidiary of Kennecott Copper Corporation, visited the Chamber that year. The company expressed interest in large, low-grade base metals deposits, a target that hadn't attracted much attention in previous decades.

Kennecott was familiar with BC, as the company had got its start in the Alaskan Panhandle in 1901, when American mining engineer Stephen Birch and his team acquired rights to a promising copper property near the Kennicott glacier. Birch then brought in J.P. Morgan and the Guggenheim family as investors. The financial giants formed the Alaska Syndicate, built a US$25-million railway to the deposit and developed it into a profitable mine. But the high initial costs and need to tap capital markets prompted the syndicate to form Kennecott Copper Corporation (named after the glacier, but misspelled) in 1915, headed by Stephen Birch. Other assets were rolled into the company, notably 25% of Utah Copper, and El Tiente, a large underground copper mine in the Chilean Andes. In 1936, Kennecott acquired the rest of Utah Copper and its huge Bingham copper pit.

By the 1940s, Kennecott was a global mining and metallurgical enterprise that would play an important role in Canadian mineral exploration. Many of its personnel would play leadership roles in the industry and its associations.

The Chamber of Mines ended the 1940s with optimism about the years ahead. The political scene was stable. Hart retired, one of few premiers who had not left office defeated or forced out by scandal. A Liberal-Conservative coalition won the 1949 election by a landslide, at 61%, reducing the CCF to a rump protest party.

The economy was strong and large mining companies were opening up offices in Vancouver, which was becoming one of the leading mining and mineral exploration centers in the world. And the Chamber was increasingly recognized as the premier source of information for this vibrant and rapidly expanding industry sector.

Kitimat Aluminum Smelter

Photo Credit: TMN Files

THE FIFTIES

Resource and Infrastructure Boom

"Progress not Politics"

Socred Party election slogan, 1956

Western Canada's minerals industry grew by leaps and bounds in the 1950s, propelled by an expanding economy and technological progress. Geoscientists were finding new and better ways to discover, develop and mine mineral deposits. Companies were diversifying into non-traditional deposits and looking to expand into foreign markets. This was a time when visionary industry leaders tackled some of the region's largest and most daunting mining and mine-related infrastructure projects.

The BC & Yukon Chamber of Mines played a supporting role in many of these milestone events. In 1952, Mel O'Brien handed the reins to Harry Warren, who remained president until Stan Crocker took over the post in 1955. It was a busy time for the Chamber, reflecting the industry's fast-paced leap into a modern era.

THE 'WONDER METAL'

Since the 1940s, the Chamber had received visits from companies interested in establishing an aluminum industry in BC, as the post-war period saw strong demand for the "wonder metal" in transportation, construction, power transmission and packaging. Alcan, the winning contender, focused its efforts on the Kitimat Valley within the Nechako Watershed of northwestern BC, based on a 1920s government survey showing that it had excellent hydroelectric generating potential.

The Kitimat-Kemano project, launched by Alcan in 1950, was then the largest privately funded construction project in Canada. The project cost $500 million at the time (likely worth $5 billion today) and included construction of a major dam and hydroelectric power plant at Kemano, a 286,000-tonne capacity aluminum smelter at coastal Kitimat, and an 82-kilometre power line from Kemano to Kitimat.

The project was an engineering marvel on many fronts. The Kenney Dam built in the Nechako River Canyon had to reverse the river's flow to create the Nechako Reservoir. A 16-kilometre-long tunnel had to be drilled and blasted through the rugged coastal mountains to carry water to the twin penstocks of the Kemano powerhouse, where the water plunges 800 meters, nearly 16 times the height of Niagara Falls. The cathedral-shaped powerhouse was drilled and blasted 427 metres inside the granite base of Mount DuBose to house eight 112-megawatt generators. And the towns of Kitimat and Kemano had to be built to house thousands of workers.

The project had a few bumps, such as a wildcat strike when miners rebelled against being paid the same as laborers. Most were fired and shipped out. The American contractor found that "replacement miners" were not easy to find in BC, and was ultimately forced to negotiate a better deal for the tunnel and construction miners.

'FEARLESS' FRED CONNELL

Asbestos lacked the stigma it bears today in 1950, when a discovery was made on

McDame Mountain, south of the Yukon border in northwestern BC. The region had been an active placer camp for decades and was famous for its large nuggets, including a 72-ounce whopper believed to be the largest found in the province.

Prospectors Vic Sittler and Hiram Nelson (a graduate of the Chamber's training school) and equipment operators Bob and Ron Kirk staked the claims and then contacted asbestos companies hoping for the big payoff.

Established asbestos firms in Quebec and the US — Johns Manville, Asbestos Corporation and ASARCO — felt the deposit was too remote to be viable. Conwest, already established in the Keno Hill district of Yukon, examined it and recognized the potential of its high-value, iron-free long fibre. A deal was struck soon after.

Fred Connell and his Conwest team turned their attention to developing a mine on a mountainside at an average elevation of 6,000 feet. Cassiar Asbestos, formed in 1951, took over the claims from Conwest, which remained its major shareholder. One of the first goals was to link the mine to the Alaska Highway, 86 miles distant. The company made use of a 60-mile tote-road to a dredging site, and then built 18 miles of access road following McDame Creek through the mountains to the deposit. A six-mile switchback road was then built up the mountain to the deposit.

By 1953, the high-grade Cassiar asbestos mine was in production, which was no small feat in a region where winters were long and severe. The mine became an established asbestos producer with a town built to attract miners and their families.

Connell also left an impressive legacy in the Yukon through United Keno Hill Mines, which ultimately became Canada's largest silver producer (for a total of 217 million ounces over its life). As a result, he helped transform the transportation (road, rail and shipping) industry, and not just in Canada, but around the world.

Keno Hill was now serviced by a 230-kilometer road connecting the camp to the Alaska Highway and Whitehorse, terminus of the White Pass and Yukon Route (WP&YR) railway. The days of transporting rich ore by river boats was gone. United Keno Hill and WP&YR pioneered the "Container Route," which allowed the inter-modal movement of containers by truck, train and ship. It also allowed for secure, low-cost back-hauling of heavy equipment, fuel and supplies to the mine.

The company and WP&YR took the concept a giant step further by commissioning the world's first container ship, the *Clifford J. Rogers,* to transport asbestos fibre from Cassiar (as well as concentrates from Keno Hill) to coastal seaports, including Vancouver. It was only a matter of time before other industries recognized the cost, time and security advantages of the container system.

EYES IN THE SKIES

The evolving role of air transportation was watched with interest by the Chamber of Mines, given potential benefits for both

White Pass and Yukon Route Railway
Photo Credit: WP&YR/Eric Johnson

mineral exploration and the servicing of mines. Wilfrid "Wop" May again visited the Chamber as an official of Canadian Pacific Airlines. The Chamber agreed to support an application to build a large airport at Prince Rupert that would serve as one of the "main gateways to the North."

Soon after, the Chamber learned of a copper-silver-gold discovery in the Unuk River region of northwestern BC, involving two graduates of its prospectors' training classes, Tom McQuillan and Einar Kvale. They were employed by Karl Springer, a founding member of the Prospectors and Developers Association.

Springer was no ordinary prospector, and no stranger to BC. He tended trap lines in northern Quebec before turning to claim-staking and prospecting in the Depression years. His first success came in Nova Scotia, where he drilled what later became one of the world's largest barite mines, followed by Leitch Gold Mines, a profitable gold producer in Ontario.

In the mid-1940s, Springer assembled silver properties on Wallace Mountain, 40 miles from Kelowna, BC. Since 1898, prospectors had been mining high-grade ore, hand-sorted underground, then transported to surface and hand-sorted again before being shipped as crude ore to a smelter in Nelson. In 1950, Springer hired a young engineer, Harold Wright, to build the first mill at 50 tons

Container Ship, Frank H. Brown Photo Credit: WP&YR

per day (gradually increased to 85 tons per day), which allowed the Beaverdell mine to ship concentrates to the Trail smelter. Later acquired by Teck Corporation, Beaverdell produced an estimated 45 million ounces of silver, plus by-product metals, from 1900 to 1991, yet rarely had more than one year's worth of reserves ahead of it.

(Harold Wright went on to found Vancouver-based Wright Engineers Ltd.)

In the late 1940s, Springer turned his attention to exploring for gold and other metals in mountainous BC using helicopters. He set up Helicopter Exploration Company for that purpose, which was one of only four commercial helicopter companies (with a combined total of 11 helicopters) operating in Canada by 1950. The first success came when Springer's team staked claims on the Unuk River and found indications of a significant copper deposit. The property was optioned in 1952 by Granby Mining, the pioneer of the Greenwood and Anyox copper camps.

Granduc was a challenging project in a remote valley with no access and heavy snowfall. Freight was brought into the exploration camp over glaciers using cat trains. But the company proved up the existence of deposits that would be developed, along with extensive related infrastructure, in the decade to come.

POLITICS AND POLICIES

The Chamber had always kept a close eye on the political landscape, though always mindful of its long-standing policy to remain non-partisan. Vigilance was necessary in BC, which developed a reputation as a politically volatile province early in its history.

The province has had 35 Premiers since Confederation, up to and including Christy Clark, sworn in on March 14, 2011. More than half served less than three years, with seven in office less than one year. Many of them resigned or were forced out of office, usually because of scandals or dissension within their own parties.

The rapid turnover of governments meant that the Chamber had to scrutinize every piece of new legislation for its potential impacts on the industry. This was the case in early 1951, when the Chamber was advised by John Walker, then Deputy Minister of Mines, of a proposed new "Mines Act" that would replace and combine the existing *Department of Mines Act,* the *Mineral Act*, the *Placer Mining Act,* and the *Mines Right-of-Way Act.* The Chamber received six copies of the proposed new mining laws, each copy totaling 84 pages, for distribution to prospectors, miners and other

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interested parties in advance of a meeting in Vancouver to discuss the proposals.

Manager Frank Woodside, known as "Mining's Grand Old Man," and the executive committee heard many protests about the proposed legislation from all parts of the province. The consensus of opinion was that "the new legislation would be detrimental to the industry, particularly to prospectors."

D.S. Tait, a mining lawyer and president of the Privateer gold mine near Zeballos called it "the worst drawn legislation" he had ever read, and warned that there was "a double meaning to many of the phrases."

The Chamber attended the government-sponsored meeting in Victoria, along with the Mining Association of BC and various Boards of Trade and organizations across the province. The industry representatives were unanimously opposed to making any changes to existing laws. At the end of the day-long session, the mines minister announced that the new act would not go before the Legislature.

The Chamber then turned its attention to a newly imposed provincial reserve on the staking of iron and manganese deposits, which meant prospectors and companies could no longer stake new or additional claims for such deposits, although they could mine those already held. The government's action sparked protests.

The Chamber did what it could to fight the onerous policy as it had received enquires about iron ore deposits from companies hoping to supply magnetite ore to help Japan's post-war reconstruction effort. Several Japanese firms made similar requests. The government did not back down, as many politicians supported restricting staking of iron ore resources in order to ensure feed for a domestic iron and steel industry. Advanced projects could proceed, however, and by the early 1950s, preparations for shipping iron ore from Texada Island (one of the Gulf Islands) and Quinsam Lake on Vancouver Island to Japan were already in progress.

Tensions between the mining and forestry sectors continued in the early 1950s as the government granted a series of Forest Management Licenses to large timber companies. Prospectors reported not being allowed to travel over newly constructed forest roads, which prompted the Chamber to remind politicians of the rights of miners and prospectors regarding access to lands.

BC's political landscape shifted in the early 1950s as the Liberal-Conservative coalition formed to "keep socialists out of government" began to fray at the seams. The CCF had pressured the coalition to

bring in public health insurance to be paid for by a new sales tax, to the dismay of many traditional Conservatives. When Liberal Premier Byron Johnson dismissed his Finance Minister, Conservative Herbert Anscomb, in 1952, it was obvious that a new election would not be long in coming.

'WACKY' BENNETT

William Andrew Cecil Bennett (1900-1979), a Kelowna hardware merchant born in Nova Scotia, likely never imagined that he would lead a new BC political party after failing to win the Conservative nomination for his South Okanagan riding in 1937.

The "apple-cheeked schoolboy of the Okanagan" tried again and won the nomination and his seat in 1941. Shortly after, he joined the "Post-War Rehabilitation Council," set up by the coalition government to travel the still largely rural province and determine the needs of the people. When Bennett saw a public desire for certain reforms, he tried to pass that message on to coalition leaders, to no avail. The tenuous coalition fractured along traditional party lines in 1951, prompting Bennett to cross the floor and sit as an independent member of the Opposition. He then joined the Social Credit Party and ran as its leader in the 1952 election.

As it turned out, no party won a majority. The Socreds, as they became known, won 19 seats, one more than the CCF, followed by the Liberals at six seats and the Conservatives with four seats. The Lieutenant-Governor called on Bennett to form the government. The new Premier and his new cabinet were sworn in that August.

WAC, or "Wacky," Bennett, as he became known, delivered on his promise to form a "middle-of-the-road free enterprise government," avoiding extremes of the left or the right. He was re-elected with an overwhelming majority in 1956, and remained in power for 20 years, as the province's longest serving Premier.

Asked many years later about this remarkable achievement, he replied: "I recognized that the people with real knowledge, and who are not biased, are women. Scratch a man and he's a Liberal or a Tory, but a woman is more genuine. She just wants her country to advance. Women kept us in power."

Highways, roads, bridges, ferries and hydroelectric power plants were priorities in the Bennett years, along with providing more schools and educational opportunities throughout the province. He improved the Medical Services plan and did not shy away from adopting "socialist" initiatives if

Harry Warren Prospecting Class Photo Credit: AME BC

they improved the lives of citizens.

"If socialism worked, I'd be a socialist," Bennett often said. "But it works only in theory. Free enterprise is the only system that works in reality."

COMPANY INFLUX

The Chamber observed early in the 1950s that base metals were attracting the most attention, in contrast to previous years in which much of the speculative capital raised in Vancouver was "going into the development of Ontario gold mines, also Yellowknife, and into the Alberta oil fields."

Gold continued to attract some attention, with reports of a high-grade discovery made on Black Dome Mountain near Clinton, BC, by local prospector Lawrence Frenier. But the Chamber recognized that the industry was increasingly focused on base metals required for post-war industrialization.

The Chamber's executive committee supported the building of new roads to mining camps, including to Britannia Mines, which was only accessible by water or by an existing tote road, despite being near Vancouver.

Remote areas of the province were also attracting attention, with Kennco Exploration (Western), a division of Kennecott Copper Corp., reported to have several parties in the field exploring for base metals. The Chamber minutes state that the company was "using the biogeochemistry method of detecting ore bodies, which has to do with the analyzing of plant life and other vegetation for possible metal content."

Harry Warren made many contributions to the Chamber over several decades, but his most enduring legacy was championing geochemical exploration techniques, including biogeochemisty, at a time when it was considered a curiosity, and helping to make it a key discipline in the search for new mineral deposits.

Tungsten became an attractive exploration target in the early 1950s, as the price reached $65 per ton, three times higher than several years prior. In 1952, the Emerald tungsten mine near Salmo, BC,

was Canada's leading producer of the valuable metal. The mine, operated by a subsidiary of Placer Development (later Placer Dome), was the first to introduce trackless mining, which had advantages over the traditional tracked ore-car system used for decades at underground mines. Trackless mining allowed the use of mechanized equipment, and later, automated load-haul-dump machines that reduced costs, boosted productivity and mine-plan flexibility.

In 1953, the Chamber was advised of intended changes to the *Yukon Quartz Mining Act,* to be modeled on Northwest Territories legislation and include four-post staking, the right to grant concessions and to administer by order-in-council. The Chamber took a strong position against the proposed changes, with support from the industry.

Later, a delegation was sent to Ottawa to make Parliamentarians aware of the danger of "tampering with mining laws that were already working quite satisfactorily." These and other efforts were ultimately successful in 1956, when the federal government shelved plans to change the Yukon mining laws.

The Chamber of Mines was advised that it had to move from its location at 790 Dunsmuir, part of the Angelus Hotel Building, as the owner wanted to install a cocktail bar. New premises were found at 751 Dunsmuir, at $300 per month for the first two years, across the street and a respectable distance from the watering hole.

The Chamber of Mines wrote a strong letter to Ottawa, urging that the *Emergency Gold Mining Assistance Act* be extended beyond its expiry date at year-end 1954. The letter stressed the importance of the gold industry to BC's economy.

The Act was introduced in 1948, when most gold mines were struggling under rising costs and a fixed gold price of US$35 per ounce. With an estimated 250,000 people across Canada dependent on the industry, the government subsidy program was a lifeline for the gold industry and many communities in the nation. It was meant to last three years, but ran for 25 years at an annual cost of about $10-15 million.

PASSING THE REINS

On November 7, 1955, Frank Woodside told the executive committee of his plans to step aside as manager as he was "no longer a young man." He recommended Tommy Elliott as his successor, and also expressed confidence in his son, Sanford S. Woodside. The committee unanimously expressed appreciation for the "excellent

Yukon exploration camp, 1950s
Photo Credit: AME BC

work done by Frank Woodside and his staff over the years."

The annual prospectors' training classes hit an average attendance "above the 400 mark" in these years, while the number of claims staked had doubled. The value of mineral production was $174.5 million, up from $153.0 million in 1954.

The Yukon was making news in these years, with reports of a zinc-lead-silver project being drilled in the Pelly River region by Prospector's Airways Company, and a nickel-copper find at Kluane Lake, held by Hudson's Bay Mining & Smelting Company.

Uranium exploration picked up steam following reports of the Blind River discoveries made by BC geologist Frank Joubin. As the story goes, Joe Hirshhorn, a flamboyant Toronto promoter, put up $15,000 of "mad money" for Joubin to test his geological theories and drill the Blind River properties. This led to major mines being developed by Denison Mines and Rio Algom at Elliot Lake, Ontario.

Consulting engineer Henry Hill became president in 1956. Soon after, the Chamber heard reports from the Ashcroft and Kamloops areas that the local Mining Recorder's office was "deluged" with people recording claims, resulting in a six-week backlog. The Chamber contacted the Chief Commissioner in Victoria, who sent out help.

The "Highland Valley copper boom," as it came to be known, would prove to be a transformative event in Canadian mining history. And the timing was perfect. Copper prices averaged 42 cents per pound in 1956, a new high and a far cry from the depths of the Depression Years, when average prices fell to a low of 5.79 cents.

HIGHLAND VALLEY BOOM

The presence of large bodies of low-grade copper mineralization in North America was known more than a century ago, but the conventional view was that they had no value or chance of being mined. That premise was first challenged in 1898, when mining engineers Daniel Jackling and Robert Gemmell examined claims in Utah's Bingham Canyon, where underground mining had begun in 1890. They saw potential for large-scale open-pit mining using steam shovels to load railroad cars, and a few years later, organized the Utah Copper Company to pioneer the process.

By 1936, Kennecott Copper owned 100% of Bingham Canyon. Production rose during the war years, when the mine accounted for about 30% of the copper used by the Allies. As porphyry deposits became recognized as being of economic

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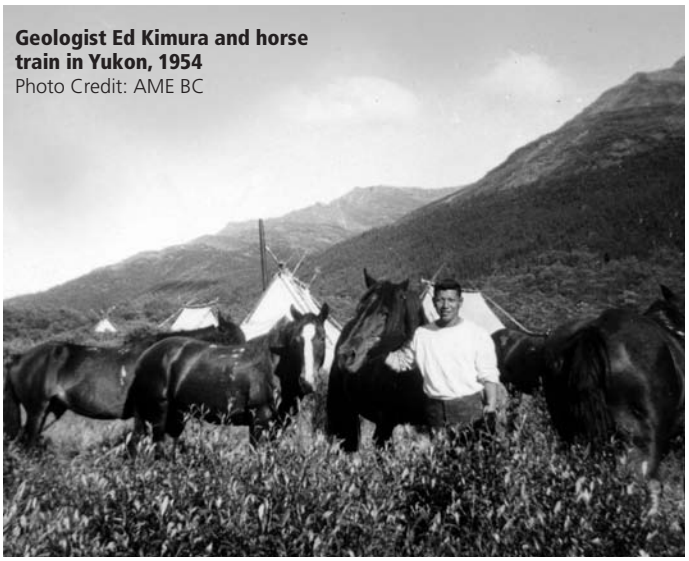


Geologist Ed Kimura and horse train in Yukon, 1954
Photo Credit: AME BC

The early days of chopper-supported exploration in BC
Photo Credit: AME BC

interest, Kennecott and its competitors — notably Phelps Dodge, ASARCO, Anaconda, Newmont and American Metal — developed a series of porphyry deposits in the US, mainly in Arizona, as well as in Chile, and other parts of the world.

In BC, meanwhile, copper production was mostly from massive sulphide deposits such as Britannia, Granby and Anyox, mined using underground techniques. As a general rule, grades had to be 2% copper or higher to warrant development. The identification of porphyry copper mineralization in BC didn't generate much excitement, or even interest, even from companies familiar with such deposits.

That changed in the mid-1950s, when prospector Herman "Spud" Huestis examined copper showings in the Highland Valley that he believed had economic potential. He formed a syndicate with financial partners Patrick Reynolds and Jack McLallen and staked the old Snowstorm-Iona-Jersey zones, which had been explored by various parties since 1907, including limited drilling in the 1940s.

In 1955, Huestis and his associates formed Bethlehem Copper Corporation to explore and develop the property. Three geology professors from the University of British Columbia — William White, Robert Thompson and Kenneth McTaggart — provided guidance for an ambitious exploration program that followed. And to the surprise of skeptics, results were positive enough to attract ASARCO as a partner that year.

Three years later, in 1958, ASARCO's head office dropped the option (against the advice of its BC team) and interest died down. But Huestis and other believers did not give up, and would make history again in the decade to come.

NEW DIGS FOR A NEW DECADE

In early 1958, the government lifted the reserve on iron and manganese in certain mining divisions on Vancouver Island, as well as in the Vancouver Island and Skeena mining divisions, which stirred protests about why it had not been removed for the entire province. The Chamber forwarded these concerns to Victoria.

Metal prices weakened in the late 1950s as mining costs rose, resulting in the closure of coal mines in Fernie, Placer's Emerald tungsten mine, and the Sunshine Lardeau operations in the Kootenay district, among others. The end of an era came for Britannia, as owner Britannia Mining & Smelting Company went into liquidation.

A new era of exploration beckoned as interest in modern geophysical methods grew, prompting the Chamber to arrange a series of lectures on the subject. The first airborne surveys flown in BC during the late 1950s were conducted because of government and industry interest in the province's iron ore deposits.

The Chamber received notice in 1958 that its existing lease on 751 Dunsmuir would expire in spring of the following year, as the owners were planning to rebuild the site. Elliott urged the members to consider the issue and decide on the next steps.

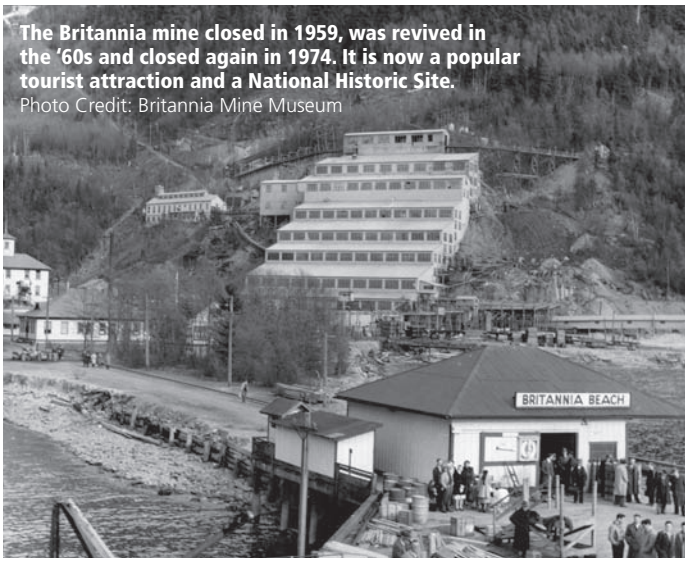
"As I see it, we have one of two choices…continue to rent at a much higher rate, or endeavor to purchase a building of our own," Elliott said. After some discussion, a special committee was set up to investigate the financial feasibility of the Chamber purchasing a building to serve as a permanent headquarters.

Shortly after, a realtor advised that the "Jukes Building" at 840 West Hastings Street could be purchased for $85,000, with $15,000 down and a mortgage for the balance.

The Premises Committee met again in early 1959, agreed to proceed, and a mortgage was secured at seven per cent interest over 20 years. The Chamber moved its new premises on March 5, 1959. The official opening was held on June 19 that year, with Mines Minister Ken Kiernan on hand for the event.

At the executive meeting in late 1959, manager Tommy Elliot affirmed that the Chamber was pleased to cooperate with the newly formed "Yukon Chamber of Mines" in Whitehorse, given the close ties of the BC and Yukon mining communities.

Soon after, the federal government proposed to create a new Yukon national park covering the St. Elias Mountains and a geologically prospective area.



The Britannia mine closed in 1959, was revived in the '60s and closed again in 1974. It is now a popular tourist attraction and a National Historic Site.
Photo Credit: Britannia Mine Museum


Official Opening of 840 West Hastings
Photo Credit: AME BC

The Chamber and industry sent briefs and letters opposing the proposal to Ottawa. It wasn't the first time various governments had tried to withdraw prospective lands from mineral exploration and mine development, and it wouldn't be the last.

Photo Credit: AME BC

THE SIXTIES

A New Generation of Mines

"Since 1899, it has been a long road, a devious road, a hard road — but a road always leading to the final realization of the dreams and aspirations of many people who would not be denied."

Western Miner & Oil Review, on the opening of the Bethlehem Mine, 1963

Each generation believes it is a driver of change, yet few took the role more seriously than North America's "baby-boomers" coming of age in the 1960s. In the spirit of Bob Dylan's protest anthem, "The Times They Are a-Changin'," they would "shake the windows and rattle the walls" of society. But there was little hint of this in 1960, as BC's minerals industry focused on developing its next generation of mines.

The Chamber was spending much of its time fighting "poor mining legislation" coming from all levels of government, then expanding in size, power and complexity.

At the 1960 annual meeting, manager Tommy Elliott stressed the importance of public relations to help politicians and others understand the industry's importance. That included Ottawa, then proposing unfavorable changes to mining laws in the Northwest Territories (NWT), such as a "Canadian Participation Clause."

The Chamber continued to urge the BC government to remove all restrictions on iron ore staking, and was pleased when this was done in the fall of 1960. Soon after, Mitsubishi Company inked a deal with Noranda Mines to export iron ore concentrates from a deposit on Vancouver Island to Japan. Other mines also came on stream.

BC's relatively small iron mines were unable to compete as larger deposits were subsequently found in Australia and Brazil. Yet they were important in attracting Japanese investment to the province, which later flowed mostly to copper and coal.

The Chamber cheered a report in the *George Cross Newsletter* stating that the value of contracts between BC mine operators and Japanese interests had reached $220 million in 1961, or as Elliott put it, "A very appreciable sum!"

Another highlight that year was the pouring of the 1,000th gold brick at the Cariboo Gold Quartz mine at Wells.

The Chamber celebrated its 50th Anniversary with a "Prospecting and Exploration Conference" on February 16, 1962, with Roy Legg as president. The event attracted 485 registrants from near and far, with technical sessions described as "excellent." Social events, including a dinner and dance, were deemed "most enjoyable."

Then it was back to dealing with issues, such as conflicts with the logging industry, with fishermen seeking restrictions on placer and lode mining, and with groups wanting to create parks where mining would not be allowed. There were positive events too, including the milestone of the first mine opening in the Highland Valley.

PERSEVERING PROSPECTORS

When H.H. "Spud" Huestis and associates Patrick Reynolds and Jack McLallen formed Bethlehem Copper to explore copper prospects in the Highland Valley region in 1955, it was by necessity rather than choice. Some of the biggest and best companies had tested the showings in the past, deeming them not of economic interest.

Huestis did not give up after ASARCO dropped an option on his claims in 1958.

Instead he forged ahead with an underground program that confirmed average grades ranging from 0.5% to 1% copper. His faith was rewarded in 1960, when Japan's Sumitomo Metal Mining offered to buy copper concentrates from the project, which allowed Bethlehem to raise the capital to build a mine and mill.

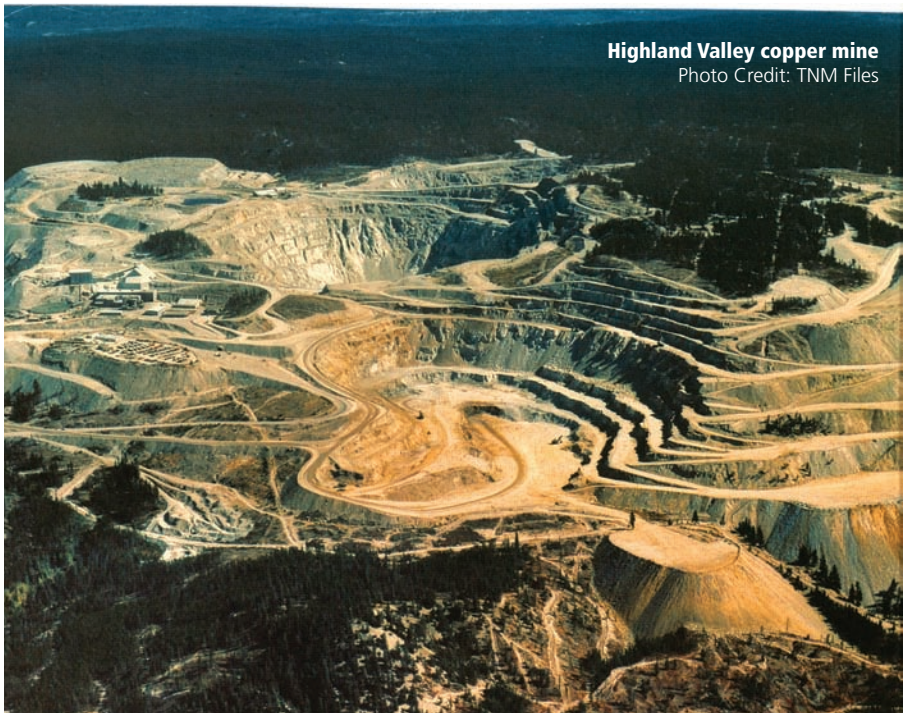
Wright Engineers did the feasibility study and designed the processing plant. The small firm founded by Harold Wright was now seen as capable of completing large projects. Wright was also a founder of Western Mines, which acquired base metal properties on Vancouver Island developed into the Myra Falls mine in 1967.

The official opening of the 3,300-ton-per-day Bethlehem mill took place on February 1, 1963, with 400 invited guests, including Elliott representing the Chamber.

"To many, it is the ultimate realization of all the dreams that miners dream," *The Western Miner* noted at the time. "It is the achievement of hopes deferred."

The event was no doubt cheered by Egil Lorntzsen, another persevering prospector who had been active in the Highland Valley since the 1950s. Born in Norway, he had worked on freighters and as a seal-hunter before jumping ship in Montreal during the Depression years. He "rode the rails" West, and ended up in the Bridge River gold camp, where he caught the prospecting bug. His first discovery became a high-grade tungsten mine during the war years.

"Spud" Huestis (center) points to welcome sign at mine opening Photo Credit: TNM Files



Highland Valley copper mine Photo Credit: TNM Files

As news of the Highland Valley rush broke, Lorntzsen came to the area and staked unremarkable looking claims covered with overburden. He continued to explore them even after being advised that "there was nothing there," and found encouraging hints of mineralization in 1964. He formed Lornex Mining shortly after, and raised money privately to trench and drill-test his claims.

Positive early results prompted Rio Algom Mines to buy Lornex shares and secure an option to acquire 60% of the junior. Lorntzsen continued to manage exploration programs, which included an Induced Polarization (IP) geophysical survey that revealed evidence of substantial mineralization. Rio Algom then came aboard to advance the Lornex deposit into a productive mine.

Highland Valley, which grew to become BC's most prolific mining camp, has the rare distinction of being both discovered and developed by prospectors. These early projects (and the subsequently discovered Valley and Highmont deposits) would be expanded and consolidated into the huge Highland Valley Copper mine, which in 2011 was operated and owned 97.5% by Teck Resources Ltd.

SCHOLZ AND SIMPSON

An American and a Tasmanian-born mining engineer were the driving forces of Placer Development, a predecessor of Placer Dome Inc. (since absorbed by Barrick Gold), during an intense period of growth and technical innovation during the 1960s and beyond. Their influence on BC's mining industry would be immense and enduring.

Aussie John Simpson joined Placer in 1939, and found himself in Papua New Guinea, under orders to ensure that the company's gold dredges did not fall into enemy hands. Later based in San Francisco, he helped Placer establish lucrative tungsten sales contracts with the US government, which gave it financial strength to diversify and expand. He was transferred to Placer's head office in Vancouver as president in 1957. A few years later, American mining engineer Edgar Scholz was also dispatched to Vancouver, where he became manager and later vice-president of exploration.

Geologists take a break at a swamp camp, BC, 1960 Photo Credit: AME BC

Placer subsidiary Canadian Exploration Company (Canex) had operated tungsten mines near Salmo since the late 1940s, and was looking for new projects. A copper property near Merritt caught its attention, resulting in Placer buying shares of its junior owner, Craigmont Mines Ltd.

Craigmont was then testing a known magnetic anomaly suggesting the presence of underlying mineralization. As the story goes, the drilling supervisor took a "break" in a Merritt bar and lost track of time, so the drillers kept drilling and hit a "bonanza" hole averaging 4.4% copper over its entire 640-foot length.

Craigmont began production at 5,500 tons per day in September, 1961. Placer held 48% through Canex, Noranda had 20% and a private party held the balance.

Scholz and Simpson developed Craigmont into the first integrated open-pit operation in BC, ushering in the era of bulk-tonnage open-pit mines in the province. Craigmont later became the first sub-level caving operation in Canada.

Scholz also inspected the Endako molybdenum property north of Prince George and made a deal to acquire it, which raised eyebrows, given its low grades. It was developed into a profitable 10,000-ton-per-day open-pit mine in 1965, with the Chamber present at its "gala" opening celebration. This was followed by the Gibraltar copper property near Williams Lake, brought in at 30,000 tons per day in 1972.

Under the leadership of Simpson and Scholz, Placer was one of the first companies to acquire projects as inventory to secure its long-term future, a departure from the usual practice of acquiring only projects viable at the time. This strategy allowed the company to assemble diverse low-cost projects during industry downturns that could later be developed as market conditions improved.

BELL AND BRYNELSEN

Geologist Archibald Bell had discovered "elephant" copper deposits in Quebec's Gaspe region and climbed the ranks of Noranda to become manager of exploration long before taking an interest in BC's porphyry copper potential in the 1950s. There he met mining engineer Bernard Brynelson, who tried to persuade him that the Brenda copper-molybdenum porphyry deposit in the Okanagan region had the makings of a mine. Noranda had its doubts, and for good reason, as its grades averaged only 0.183% copper and 0.082% molybdenum.

Noranda didn't bite, so Brynelsen kept the project alive privately while working as "Noranda's Man in the West." During the 1940s and '50s, Noranda was a pioneer in the use of geochemical exploration, portable geophysical instrumentation and rock alteration studies as guides to ore. Under Bell's guidance, an exploration program at Babine Lake, BC, led to the discovery of a porphyry copper deposit in 1963. It began production in 1972, named in Bell's honor. Prior to that in 1965, Noranda had developed Canada's first molybdenum mine, Boss Mountain, in the Cariboo region.

Brynelsen, meanwhile, formed Brenda Mines and mortgaged his home to advance its namesake project into an open-pit mine in 1970. To the surprise of skeptics, Brenda became a profitable producer through the use of automated mining technology, with

Noranda and a Japanese firm later investing in the company.

INDUSTRY RESURGENCE

The robust economy provided the Chamber with a foundation to secure its own future. In 1963, the executive committee proposed paying off the mortgage in advance of its due date. By pre-paying the $50,000 left owing, the Chamber would save $39,000 in interest to be paid over the next 16 years. A resolution was passed recommending a fund-raising campaign to pursue this goal. "Spud" Huestis agreed to act as chairman, and got the ball rolling with a personal donation.

Another highlight was the opening of the Cantung open-pit mine in the NWT's Mackenzie District, near the Yukon border. Kennco had drilled and dropped the prospect in the 1950s, and soon after, its potential was recognized by a syndicate involving Karl Springer and Thayer Lindsley. Canada Tungsten Mining Corporation was formed to mine the rich tungsten deposits. Cantung was later hit by a series of closures as tungsten prices fell under pressure from low-cost Chinese producers.

Beaver at Fish Lake, 1962
Photo Credit: AME BC

In 1963, Elliott was among 50 guests witnessing the pouring of the 3,000th gold brick at the Bralorne mine. Franc Joubin,

"Spud" Huestis (left) watches as Tommy Elliott presides over the "burning of the mortgage" Photo Credit: AME BC

now chairman of the Bralone board, was also on hand for the event along with newly appointed president George Davenport.

Gavin A. Dirom of ASARCO was president from 1963 to 1964, followed by Jack Gower of Kennco until 1966. These were active years for the Chamber, with a series of mine openings, including Granby's Granisle open-pit copper mine near Babine Lake in 1965. Dozens of projects were under development.

The value of mineral production reached $270.7 million in 1966, another new record.

A brief was submitted to the Carter Royal Commission on Taxation, then studying federal tax reform. The need to retain the three-year tax exemption for new mines was stressed, along with a strong argument against a proposed tax on capital gains of prospectors.

A special event — the "burning of the mortgage" — took place at the Chamber's 53rd annual meeting in 1965 to recognize the success of the fundraising campaign headed by H. "Spud" Huestis. Stanley Fraser Crocker (past president 1955) thanked the famous prospector for his "outstanding efforts on the Chamber's behalf."

EAST MEETS WEST

The Keevil Mining Group, owner of Teck Corporation, moved to Vancouver in 1964, starting what would become a long association with the West. Teck had deep roots in the East, where its predecessor, Teck-Hughes Gold Mines Ltd., got it start in 1913.

Teck-Hughes diversified from its first gold mine in the Kirkland Lake camp to develop the Lamaque gold mine in Quebec's Val d'Or camp in the 1930s (the mine produced for 50 years, until 1984). In the mid-1950s, Teck was one of several companies that formed the Mattagami Syndicate inspired by Karl Springer to explore for base metals using newly developed airborne electromagnetic (EM) geophysical technology.

Norman Bell Keevil, meanwhile, was also exploring the Lake Temagami region of Ontario using geophysical technology, notably an adaptation of a magnetic airborne detector used in wartime to help locate submarines. Keevil recognized its potential for mineral exploration and acquired exclusive rights for its use in Canada. He was well qualified to do so, having studied geophysics at the Massachusetts Institute of Technology, and at Harvard, where he received his PhD. He later taught the subject at the University of Toronto, and also became a geophysical consultant.

Keevil found an intriguing anomaly, but his company Temagami Mining lacked the resources for an exploration program, so he farmed it to US copper miner Anaconda. The company drilled a hole in the middle of the anomaly, hit a barren dyke, and walked away. Keevil refined his target and scraped together enough money to drill a hole a few feet away. In 1954, he hit the jackpot, a 58-foot interval grading 28% copper.

"It was unusual to find a high-grade copper mass that rich…some areas assayed 34% copper," Keevil later told *The Northern Miner*.

The rich mineralization could be shipped straight to a smelter, allowing Temagami to mine the deposit on its own, without a senior partner. The mine continued to operate for 17 years, usually with only a year or two of reserves ahead of it.

Keevil then set out to build a major mining company, initially

through mergers and acquisitions, starting with the acquisition of Teck-Hughes and other participants in Karl Springer's Mattagami Syndicate. In 1957, the syndicate discovered a zinc-copper-silver deposit that was developed into a mine by Noranda years later.

Teck Corporation came into being in 1963 as a result of these and other mergers.

THE WINDFALL SCANDAL

The Chamber of Mines had received complaints about over-zealous stock promoters for years and called for measures to be taken against those engaged in such activities. As Elliott warned, "They will kill the goose that lays the golden eggs."

The warning was timely as regulations to protect investors from promotional excesses were weak and rarely enforced. Some brokerage firms were highly promotional, including broker-dealers concentrated in Toronto that specialized in "penny" mining stocks and "moose pasture" properties.

Yet, on the other hand, many investors had made fortunes from legitimate finds.

Against this backdrop, the public response to news of a base metal discovery by Texas Gulf Sulphur smashed all trading volumes on the Toronto Stock Exchange (TSE) in April, 1964. Fortunately, it was a world-class discovery in Ontario's Timmins camp, known for its prolific gold mines. Texas Gulf believed the area had base metal potential as well, and tested this theory with a geophysical survey capable of detecting deep-lying EM anomalies. The survey detected an anomaly indicating a large mineralized body under a swamp and overburden, which was later confirmed by drilling. Texas Gulf shares skyrocketed from $17 to $37 the day the news was announced, later climbing to more $170 per share.

The Texas Gulf zinc-copper-silver discovery sparked a massive staking rush, with more than 20,000 claims filed by more than 100 companies. Among the players was Windfall Oils & Mines Ltd., led by the famous prospecting couple of Viola and George MacMillan. Viola, the "Queen Bee of Mining," had been elected president of the Prospectors and Developers Association more than 20 times. Shares of Windfall soared from 56 cents to $5.70 on speculation that it had made a rich discovery.

As it turned out, after weeks and weeks of silence, Windfall reported that "no commercial assays were obtained." The stock fell to pennies again, taking other penny stocks and the fortunes of many investors down with it. *The Northern Miner* headline that week read: "A BLACK DAY FOR CANADIAN MINING."

May Martin greets a visitor at the Chamber office Photo Credit: AME BC

A royal commission was soon established to investigate what became known as the "Windfall Scandal." All the parties involved, including the TSE and the Ontario Securities Commission (OSC), came under scrutiny and bore some of the blame, but none more so than Viola MacMillan. She was charged and convicted (and later pardoned) of "wash trading," which by most accounts was common practice at the time, in shares of Golden Arrow Mines, another company she controlled.

The TSE and OSC, stung by harsh criticism about their lack of vigilance over the companies in question, took aim at the entire junior mining sector. The TSE opted to focus almost exclusively on "blue-chip" stocks and investment-grade securities. The OSC developed tough new regulations under a strengthened Securities Act.

The end result was an investment climate that many Toronto-based juniors and promoters felt was "too restrictive." As a result, many came to Vancouver, where the junior mining scene was flourishing. A few would make history in a positive way.

NORTHERN LIGHTS

The North was the focus of investor interest in 1965, when the Vancouver Stock Exchange (VSE) experienced an unprecedented flurry of trading on news of a rich lead-zinc discovery by Pyramid Mines in the Pine Point region.

Several factors helped trigger the excitement. One was the project's location next to the newly built Pine Point mine, discovered in the 1940s by CM&S. A railway now serviced the mine, allowing for the transport of high-grade concentrates to the Trail smelter. Another factor was geophysical advancements, notably IP surveys, which detected a classic anomaly and contributed to exploration success.

Pyramid president Alec Lenec, a former chartered accountant, and prospector John Tancowny were bullish about their claims in the Pine Point region, yet lacked experience running public companies. When the stock climbed to several dollars from pennies on speculation without drilling results, the BC Securities Commission stepped up its scrutiny of the company as it did not want a repeat of the Windfall fiasco.

Henry Hill, who managed the Pyramid program, ordered a number of unprecedented security measures, including blocking access in and out of the camp and boxing core before the drillers could see it. When assays confirming a substantial discovery were finally released, Pyramid shares soared to $24 per share.

According to reports at the time, some people were "stopping their cars in the middle of the street and running into the stock exchange to buy shares, of anything."

Pyramid eventually sold the project for $33 million to CM&S (which changed its name to Cominco in 1966), which then boosted its nearby mill to 10,000 tons per day.

Another discovery generating excitement and a staking rush that

year was made by Dynasty Explorations in the Ross River region of Yukon, not far from where prospector Alan Kulan had discovered the Vangorda lead-zinc deposit in 1953. That initial discovery was optioned by Prospectors Airways, which under the direction of Edward (Ted) Chisholm made good use of geochemical sampling to trace the original showing in Vangorda Creek and detect other deposits. But they were never developed because of the remote location and weak metal prices at the time.

In the early 1960s, Kulan teamed up with geologist Aaro Aho to form Dynasty Explorations and renew the search for base metals in the region. Also on board were Gordon Davis, John Brock and others. The team applied geological expertise and modern geophysical techniques to discover the Faro lead-zinc deposit in 1965.

Anvil Mining Corporation was formed later that year, with Cyprus Amax holding 60% and Dynasty the balance, to develop the deposit into a mine. A highway was built between

Sanford Woodside and Joe McPhee talk "rocks" Photo Credit: AME BC

Granduc Glacier
Photo Gredit: AME BC

Carmacks and Ross River to serve the new town of Faro. Open-pit mining began in late 1969, at rates up to 10,000 tons per day.

Northwestern BC saw renewed activity in 1964 as a decision was made to develop the Granduc copper deposits in the Unuk River region, which had changed hands to Granduc Operating Company, jointly owned by Newmont Mining and ASARCO.

To access the remote deposits, the company drove an 11.5-mile haulage tunnel from the site on the west side of Granduc Mountain to the nearest feasible mill site at Tide Lake in the Bowser River Valley. From there, a mountain road was built to tidewater at Stewart, 32 miles away. It was an engineering and logistical challenge that took several years to complete, with a tragic loss of 26 lives from a major avalanche.

Building the underground mine and related infrastructure cost $115 million, twice the original estimate. Operations began in late 1970, with the first concentrates shipped from Stewart in early 1971. Published reserves were estimated at more than 43 million tons grading 1.73% copper, with minor by-product gold and silver.

EXPLORATION EXCELLENCE

BC and Yukon's exploration boom during the 1950s and 1960s resulted in many discoveries that would become mines in later decades, or ones that are yet to become mines. One of the most active companies engaged in large-scale regional programs at the time was Kennco, a unit of Kennecott Copper.

Geologist David A. Barr, author of *One Lucky Canuck*, spent

22 years with the company, a period in which hundreds of projects were explored across Canada.

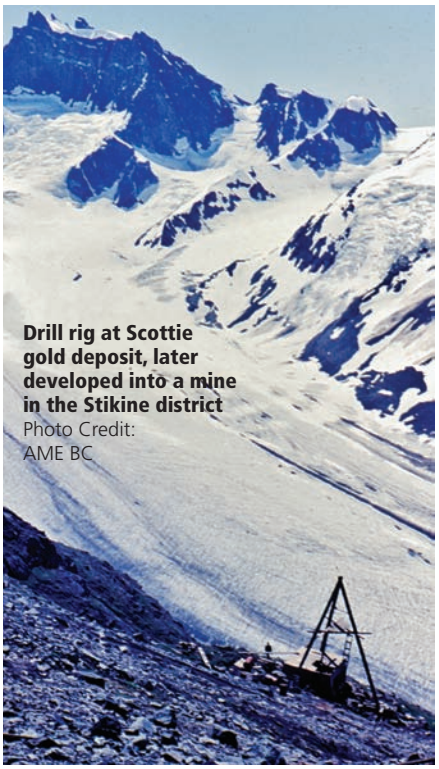
"Our principal goal, which was generally shared by Kennecott's international group, was the discovery and development of porphyry copper-molybdenum deposits, similar to the major deposits mined in the southwestern US by Kennecott."

The deposits cited by Barr — Chino in New Mexico, Ely in Nevada, Ray in Arizona, and Bingham Canyon in Utah — all began production in the early 1900s. The crown jewel was Bingham Canyon, which in 1958 had reserves of 700 million tons grading 1.0% copper, followed by Ray at 265 million tons at 0.8% copper.

While Kennco staked, optioned or explored many BC porphyry deposits — Lornex (Highland Valley), Brenda, Endako, Equity Silver, Huckleberry, Kemess — that later became mines, none appeared to match its criteria for development at that time. The company also explored remote BC projects that might have become mines, notably the Galore Creek copper-gold deposit, were it not for their lack of infrastructure.

These projects didn't just have to compete with Kennecott's existing mines; they had to rival the best in the world, given its global focus. As Barr noted, they had to have "a minimum 20-year life and five-year payback and be capable of contributing 10% annually to the parents' earnings." But as geologists know, deposits rarely reveal their potential to business-minded boards of directors. Had that been the case, Highland Valley and a few other BC deposits likely would have made the cut.

Notwithstanding, Kennco played a vital role in Canadian mineral exploration, pioneering the development of innovative techniques, notably stream-sediment geo-



Drill rig at Scottie gold deposit, later developed into a mine in the Stikine district
Photo Credit:
AME BC

"Why Can't I?"

In the mid-1960s, a rich lead-zinc discovery by Pyramid Mines near Pine Point, NWT, triggered great excitement. Don McLeod was in the thick of it, part of an exploration team led by engineer Henry Hill, seeing aspects of the industry that he likely never imagined as a kid running pack-horse trains to mines near his home town of Stewart.

The discovery was sold to Cominco, making millionaires of the Pyramid insiders. McLeod, unable to afford shares on his salary, was unemployed with a young family.

"Some of the men backing Pyramid had absolutely no experience in that side of the business [raising capital and financing exploration]," McLeod notes in his biography *The McLeod Luck*. "This said to me, if these guys can do it, why can't I?"

McLeod formed Northair Mines in 1967, with little luck at first. In 1972, he optioned a gold-silver prospect near Squamish, found by Dr. Michael Warshawski, a part-time prospector trained at the Chamber's classes, and Albert "Moose" Manifold. A drilling campaign returned impressive results, which led to a positive feasibility study.

Soon after, the NDP government under Dave Barrett announced a punishing royalty regime. Northair's stock fell below a dollar from about four time that. But with the company already financed, McLeod pressed ahead and got the job done.

"We were the first mine to go into production in BC without assistance from a major in over 40 years. We went it alone. They only reason it was successful was my stubbornness and persistence."

Some "McLeod Luck" helped too. Gold prices fell to US$100 as the mine began production, but soon recovered and continued to soar, allowing the mine to produce profits, and even a dividend for shareholders, until it closed in 1982.

"From the first drill hole to the day we reached production, it took only three and a half years—and just $8 million," said McLeod. "Today, a similar mine would easily cost 10 times that."

chemistry, and hiring some of the most talented geoscientists of the time. Many of them would later contribute to the development of the junior mining sector.

"TRUDEAUMANIA"

The political landscape changed dramatically in the late 1960s as Pierre Elliott Trudeau won the leadership of the Liberal Party of Canada, and then made a bid to become Prime Minister of Canada in the 1968 federal election.

Trudeau had worked as a lawyer specializing in union and civil liberties cases and as a professor before becoming politically active, initially as a NDP member and later with the Liberals. He campaigned with youthful energy on a platform of policies that seemed to match the "flower power" spirit of the late 1960s.

Trudeau was a polarizing politician, disliked by many voters, particularly in the West, who feared his left-wing leanings. But young people, idealists and media enamored by his charisma helped him win the election on a wave of popularity dubbed "Trudeaumania," echoing "Beatlemania" of the same period.

In contrast, Premier Bennett's policies were more popular with an older generation. They appreciated his construction of large hydroelectric dams and power plants, which provided low-cost electricity to consumers and industry, and the public ferry system connecting islands to the mainland. BC was largely rural when Bennett came to power, and those communities applauded when back roads and pack trails were transformed into highways by Phillip Gaglardi, BC's gung-ho Minister of Highways. He earned the nickname "Flying Phil" after being caught for speeding on one of them, telling the police officer: "I wasn't driving too fast, I was flying too low."

The industry also benefited as skills gained by building roads and infrastructure in mountainous terrain led to advancements in open-pit mining and geotechnical engineering. Engineer Carroll Brawner had worked for the Department of Highways during this era before co-founding Golder Brawner and Associates (later Golder Associates) in 1963. The firm became a global leader in the safe design and construction of large-scale open-pit mines and tailings dams around the world. Brawner later joined UBC's Department of Mining Engineering, where his courses on mine design, tailings dams and slope stability advanced BC's engineering expertise.

By the late 1960s, however, BC was increasingly urban, with a more diversified economy and population. Young women were seeking careers beyond being homemakers. The baby-boomers had come of age and were looking to new ideas, new leaders and new values. Amid this backdrop, a new decade dawned, one that would prove to be among the most challenging in modern mining history.

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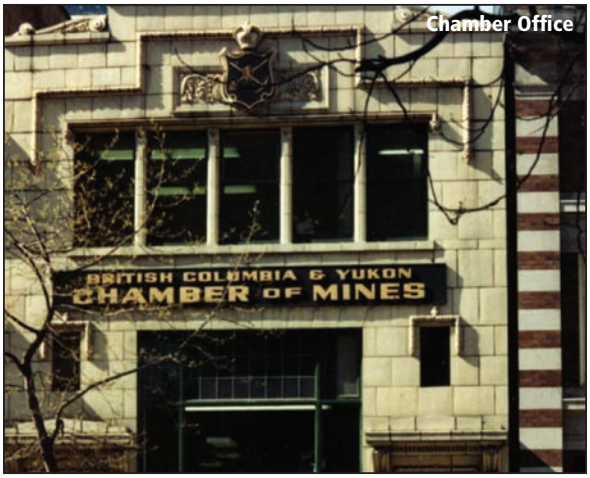


Chamber Office

Photo Credit: AME BC

THE SEVENTIES

Between a Rock and a Hard Place

"The socialist hordes are at the gates of British Columbia!"
- Premier WAC Bennett, election-eve warning, 1972

The 1970s began on a positive note for the Chamber of Mines. Newly elected president Len White reported that 100 large companies and about 600 smaller ones were looking for new mines in Western Canada, including 50 oil-and-gas companies.

"We list 39 mines currently in production or close to it throughout British Columbia and Yukon, having a total throughput of some 140,000 tons per day," White added.

On the list was a porphyry copper deposit on northern Vancouver Island found in 1963 by prospector Gordon Milbourne and optioned to Utah Construction and Mining. By 1969, Utah had enough resources to plan an open-pit mine.

Island Copper became a magnet for opponents, including Patrick Moore, a scientist and one of the original co-founders of Greenpeace. Through public hearings and the media, Moore and other environmentalists challenged the company's plans for underwater storage of tailings to prevent acid mine drainage. Government scientists and fisheries experts concluded however, that submarine tailings disposal would be less harmful than land disposal (as would be confirmed by a study 24 years later) and the 50,000-ton-per-day mine began operations in 1971.

Island Copper was a harbinger of things to come.

THE TAX MAN COMETH

Meanwhile, the Chamber was busy reviewing a stream of proposed legislation with potential to curtail the mining boom. Prospectors, mining companies and Japanese firms with Canadian mining investments all expressed concern about "drastic" tax changes recommended by the Carter Commission.

Kenneth Carter, a Bay Street accountant, had delivered his six-volume report in 1967. It concluded that the tax system favored the wealthy and business interests over most workers, and called for taxation of capital gains and an end to certain tax write-offs and exemptions. A few years later, a White Paper by Edgar Benson, federal finance minister, was released on how they should be implemented.

The Chamber made strong representations opposing many of the proposed tax changes to a House of Commons committee in July of 1970, and again in September, when Tommy Ellliott presented the Chamber's views.

Other industries with concerns did the same. On the other hand, the proposed tax changes found favor with those seeking "a more fair distribution of wealth" in keeping with Prime Minister Trudeau's promise of a "Just Society."

In late 1971, the federal government passed a bill that acted on some of the Carter Commission recommendations. The three-year tax-free period for new mines was withdrawn, with earned depletion to take effect at the end of 1976. Prospectors' gains from the sale of properties would be subject to capital gains tax,

although lottery winnings would not. It was a disappointing day for the Chamber.

OUTREACH

As negative newspaper and television reports about mining came to the Chamber's attention in 1971, members were dispatched to rebut false and misleading claims. The Chamber reorganized its committees that year, with each having a chairman, and also established an education committee.

May Martin retired after 13 years of dedicated service to the Chamber.

In 1972, the Chamber reported that the gross value of BC mineral production had reached a record $521 million while Yukon production had increased by 21.3% to $94 million. It was noted that one major mineral deposit had a "far greater value per acre of land occupied than any other basic industry," and that BC mines only occupied a small portion (0.025%) of the total land mass.

The industry hoped this positive message would be fairly considered by the Socred government, expected to win the 1972 election. But the Premier, now in his seventies, ignored hints that he should step aside to allow for party renewal.

Times had changed. A warning that "socialist hordes were at the gates" failed to resonate, and for the first time in 20 years, WAC Bennett was soundly defeated.

NDP SWEEP

Dave Barrett, a former social worker and leader of the New Democratic Party (NDP), became BC's 26th Premier on September 15, 1972.

"We will now move into a people's century in British Columbia," he said.

The Premier wasted no time, passing a new law on average every three days while in power. He made it clear from the start that the days of "unfettered access to resources" by companies was over in the province.

Leo Nimsick, a former warehouse employee at Cominco's Trail smelter, was appointed mines minister. He said no mining venture would be permitted to start up anywhere in BC if it contributed to pollution.

"The whole province has become a clean air zone."

The mines minister also hinted that royalties would be coming to ensure that the treasury received its "fair share" of the exports of BC's non-renewable resources.

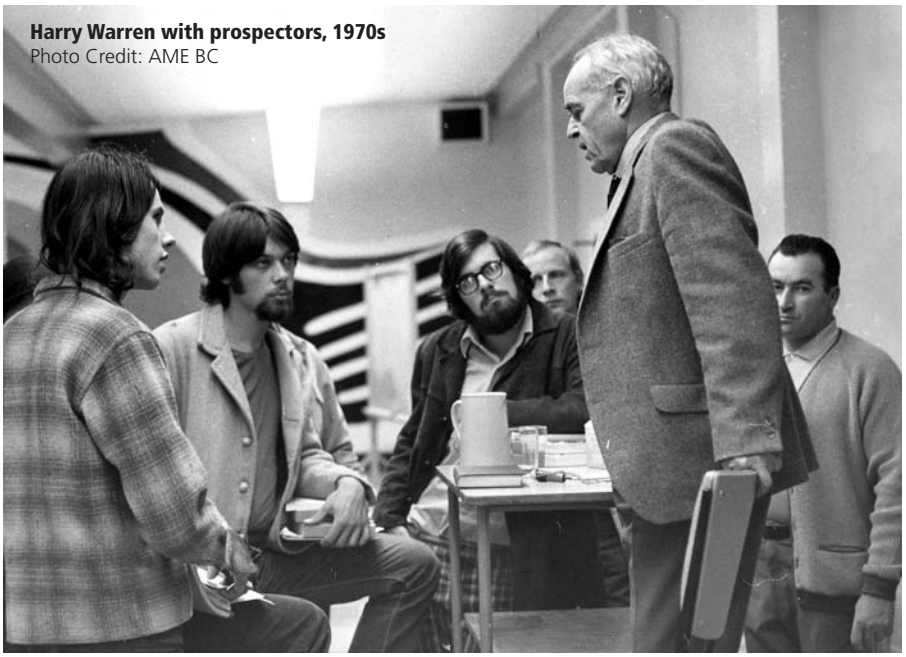
"The era of the free ride is over in the province."

Hart Horn, Nimsick's influential assistant, met with the Chamber and said that it was not the government's intent "to put a stranglehold" on the industry.

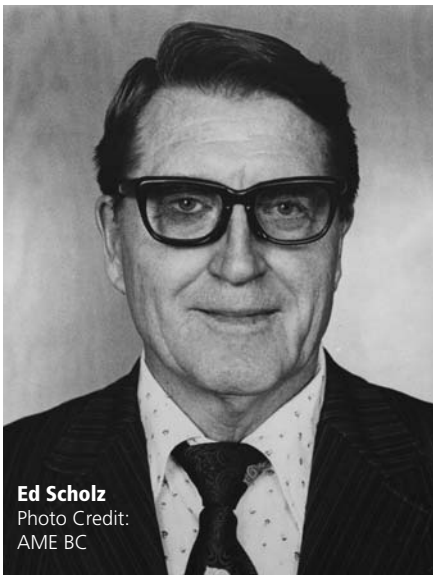
Yet later that year, Horn indicated that a wholesale revision of the Mineral Act was planned for 1973, to include increased claim recording fees, instituting an annual rental fee of $20 per claim, increasing the value of annual assessment work per claim to $300 from $100, among other measures.

Ed Scholz was elected Chamber president in 1973. Shortly after, the industry learned that it would be government policy not to allow staking and prospecting in parks.

Bill 44 — "An Act to Amend the Mineral Act" — was introduced in March of that year. It contained drastic changes as Horn had predicted, and it also gave government discretionary powers over mine development.



Harry Warren with prospectors, 1970s
Photo Credit: AME BC



Ed Scholz
Photo Credit: AME BC

The Chamber passed a resolution declaring its opposition to the onerous bill and passed it along to the mines minister and to the press, resulting in wide publicity.

Others applauded the government's moves, as this was a time when nationalization of foreign-built mines was taking place in Africa, Chile and other parts of the world. It would take those countries years to realize that such policies invariably result in less productive mines and fewer discoveries. Mineral exploration is simply too risky to be financed out of the public purse.

Honorary Life Members, 1977 Photo Credit: AME BC

"SUPER-ROYALTY" BACKLASH

Another Dave Barrett shoe dropped on "Black Tuesday," February 19, 1974, when his government introduced a "Mineral Royalties Act."

Bill 31 called for a royalty of 2.5% of the "net value of every unit of a designated mineral" in 1974, rising to 5% in 1975, and a "super royalty" of 50% of the amount by which the gross value of a unit of a designated mineral exceeded 120% of the "basic value" of the unit. It also provided for a reduction in the royalty when basic value exceeds gross value and when smelting and refining takes place in BC.

Bill 31 also contained wide regulatory and policing powers. Minister Nimsick described it as "one of the most important" ever introduced in the legislature.

"I think it's going to change the whole course of the mining history in the Province of British Columbia," he said. "The uncertainty has ended."

For the industry, the uncertainty had just begun.

Trying to boil down what the bill would mean to the bottom line wasn't easy, as the calculation of "net," "gross" and "basic value" was at the discretion of Cabinet. It also wasn't clear whether the royalty would be deductible in calculating federal income tax, or provincial taxes for that matter.

But it was clear that Bill 31 would devastate the industry. An estimated 1,600 people packed the Hotel Vancouver for a special meeting of the Chamber of Mines in March, 1974. President Ed Scholz urged the government to amend its legislation, particularly Bill 31, and restore investor confidence in the province.

The Chamber and other industry groups also set up a "Mining Emergency Centre" and launched a fund-raising drive to oppose the detrimental legislation.

The press covered the battle between industry and the NDP, as well as the sparring over the issue in the Legislative Assembly. Nimsick slammed those opposed to the bill as "defending the mining companies against the people." NDP critics said they were "defending the people against this government."

Nimsick stuck to his guns, undeterred by reports that up to 5,000 people involved in mineral exploration had already left the province. Another bill was introduced in the spring of 1974, whereby placer mining would only be allowed on leases issued by his ministry, subject of course to Bill 31 royalties.

Elliott and assistant Rick Higgs were then spending 90% of their time fighting government policy. Almost $100,000 was raised to help this effort. A media campaign was under way to help the public understand the seriousness of the issue. And 5,000 "Mining—BC's 2nd Industry" bumper stickers were printed and distributed.

Hundreds of prospectors, miners and others demonstrated against Bill 31 on the steps of the Legislative Building that year, with Chamber officials attending only as observers. Women and their children took part in the protest, carrying banners that read, "Don't Make Our Men Lose Their Jobs."

The Mineral Royalties Act was proclaimed in the fall of 1974, retroactive to the entire year for tax purposes. The "basic values," as designated by Order-in-Council, were 58 cents for copper, $3.00 for silver, $82.50 for lode gold (placer gold was not designated) and $1.76 for molybdenum. Other minerals were not yet designated.

The Chamber continued the Bill 31 fight into 1975, when Robert Sheldon of Newmont Mining was elected president. Tommy Elliott, having reached 65 years of age, announced his retirement, with tributes pouring in from far and wide.

"NEW MATH"

Newly appointed manager Rick Higgs picked up the torch to help the beleaguered industry, which just learned that provincial royalties would not be deductible in calculating federal income tax. With help from Ron Stokes, large colored cardboard charts were prepared showing the distribution of mining revenue from a pound of copper before Bill 31, after Bill 31, and the effect of the new federal tax ruling.

Higgs and Stokes were dispatched to Victoria make their case. Their charts were used by opposition members to reveal flaws in Nimsick's math.

Before Bill 31, the distribution of mining revenue from $1-per-pound copper showed a distribution of 16 cents for the company and 14 cents to the two senior levels of government, after production costs of 70 cents, including transportation, smelting and refining.

After Bill 31, and using the same copper price and production cost assumptions, BC's portion increased to 23 cents, the mining company's share was cut to five cents, and the federal portion was 1.94 cents.

Rick Higgs Photo Credit: AME BC

By not deducting provincial royalties in calculating federal tax, BC taxes and royalties would be 28.15 cents, the federal portion would be 7.5 cents, and the company would lose 6 cents per pound of copper after production costs.

Minister Nimsick's response was: "You can't get 118 out of 100."

The point was made, penny by penny, in a way that politicians and the public could understand — no industry could survive an effective 118% rate of taxation.

BC government officials later invited the Chamber and industry representatives to discuss "possible amendments" to some legislation. No progress was made as the NDP gave the impres-

sion that it intended to be a "backseat operator" at every mine.

The NDP government did not change course, but took heat for the exodus of mining and exploration capital from the province. Exploration spending fell to $15 million in 1975, down from $38 million in 1972.

The Chamber also fought hard against federal policies that threatened the investment climate of the northern territories.

"ZAP! YOU'RE FROZEN"

BC's mining industry was caught between a rock, the onerous royalty and regulatory regime in BC, and a hard place, a deteriorating fiscal regime at the national level.

In the 1972 federal election, Trudeau's Liberals were reduced to a minority propped up by the NDP. Two years later, the House of Commons passed a non-confidence motion in the Trudeau government and defeated its budget bill.

The economy was in crisis, partly because of high crude oil prices and competition from low-cost manufacturing economies in Japan and Korea, and partly because of hyper government spending. Canada was gripped by "stagflation," characterized by high inflation rates, slow economic growth and high unemployment rates.

Trudeau won the 1974 election with a majority by vowing not to impose "wage and price controls," as advocated by Conservative leader Robert Stanfield to fight inflation rates, then exceeding 10%.

Trudeau mocked the idea, saying, "You can't just say 'Zap! you're frozen'."

But as inflation continued to rise, Trudeau instituted wage and price controls in October of 1975, administered by an Anti-Inflation Board.

The program was as much hated by labor unions as it was by business leaders.

Premier Barrett independently froze prices of essential goods and services and transportation and utility rates in BC. He also called for the "gradual nationalization" of Canada's non-renewable resources, to the dismay of the other western premiers.

UPS AND DOWNS

A positive interlude in these years was a decision by Teck Corp. to place the Afton mine into production, and also build a smelter capable of processing 25,000 tons per year of copper concentrates. Chester Millar had staked the prospect in the mid-1960s, and applied percussion drilling used in highway construction to test its potential, resulting in a copper-gold discovery.

Robert Hallbauer, then vice-president of Teck, encouraged the company to acquire 51% of Millar's junior, Afton Mines, on the open market. This was later increased to 74% through a financing deal. The open-pit mine began operations in 1978.

The Mining Museum at Britannia Beach opened in 1975. Charles Ney died that year, prompting the Chamber to improve and name its library in honor of his years of service, notably at the prospectors' training school.

Premier Barrett called a snap election in late 1975, and lost, including his seat, when the revived Socreds won a strong majority under new leader Bill Bennett.

Tom Waterland, the new mines minister, wasted no time in repealing and revising the most onerous aspects of the NDP legislation.

In the 1979 federal election, Pierre Trudeau's government was defeated by the Progressive Conservatives led by Joe Clark, who formed a minority government. Soon after, Trudeau announced plans to resign as Liberal Party leader.

Investment returned to BC, with Kaiser Resources and Denison Mines advancing coal projects. But uranium exploration came under threat as anti-nuclear groups sought a ban on the sector. The Chamber submitted technical information and briefs for a Royal Commission set up to examine the contentious issue.

By late 1979, the political landscape in Ottawa changed again. After a series of policy mishaps, Clark's minority government was defeated by a non-confidence motion.

Trudeau was persuaded by his party to stay on as leader and fight Clark again, which he did, winning a majority in the February 1980 election.

After these topsy-turvy years, it was hard for anyone to predict what might lie ahead in the decade to come.

"Where do we go from here?"

As Chamber president in 1979, Don Mustard was involved in preparing submissions to a Royal Commission studying the contentious issue of uranium exploration and mining in BC. To the surprise of the Chamber, the government under Premier Bill Bennett imposed a seven-year uranium moratorium in early 1980.

"We sent a telegram to Victoria, asked for a meeting, and got one," Mustard says.

The delegation entered a Cabinet room where the Premier sat, surrounded by his ministers, seniors in chairs and juniors lined up along the outer walls.

"Gentlemen, this is my decision and it's not going to change," the Premier said. "Where do we go from here?"

Some people might be intimidated, but not indomitable Don.

"We understand your position," he replied cheerily in his Scottish brogue, "but it's not a rational decision. Where do we go from here?"

Nowhere, as it turned out.

Several advanced uranium deposits were in the Premier's Okanagan constituency and it was soon obvious that he did not want uranium exploration or mining anywhere near the apple orchards and vineyards of the bucolic region.

Mustard argued that it would be better to mine them out than leave them there.

"We went at it for about an hour, but nothing was going to change." Mustard said.

In 2008, another uranium moratorium was imposed, this time with no deadline.

A reporter called Mustard, asking it was "safe" to allow uranium mining in BC.

"I suggested they talk to the Mines Minister in Saskatchewan," Mustard replied. "They've been at it quite a while there."

Don Mustard Photo Credit: AME BC

Hemlo Gold Camp

Photo Credit: TNM Files

THE EIGHTIES
Windows of Opportunity

"I just think you Westerners should take over this country if you are so smart."
- Pierre Trudeau, Canada's 15th Prime Minister

Gold and silver prices soared to US$850 and US$49.45 per ounce, respectively, in 1980, propelled by geopolitical uncertainty and high inflation and oil prices. They didn't stay that high for long, but signaled renewed interest in precious metals. Donald Mustard, Chamber president (1979-1981), responded to media enquires about gold as he had started his career working in South Africa's gold mines.

Meanwhile, the Chamber awaited the outcome of the Royal Commission of Inquiry into Uranium Mining, led by David Bates. His 1979 interim report didn't call for a uranium ban, yet called for no further underground programs pending further studies. This "mixed message" resulted in a wait-and-see strategy by companies holding advanced projects, such as the Blizzard deposit in the Okanagan district.

The Commission became moot in 1980 as the government announced a seven-year moratorium on uranium exploration, development, and claim staking.

Activists who had protested outside Premier Bill Bennett's office were elated.

The industry was shocked by the action of a "mining-friendly" government — none more so than the owners of the Blizzard deposit and a Korean utility that planned to buy its production. Uranium prices fell soon after, along with interest in the sector.

Rick Higgs resigned from the Chamber that year to join the political arena. Jack Patterson, a geologist previously with the Department of Indian Affairs and Northern Development, was appointed manager. Sanford Woodside retired in 1981.

Canada's first exploration safety manual was drafted by the Chamber through the efforts of Dave Barr, Nick Carter, Eric Ostensoe and others. The impetus was the tragic death of five people flying to a mineral project in the Iskut River region. It fell to Barr, then managing the program, to inform the families. He described it as the "worst day of my life," and the start of his advocacy for rigorous safety standards.

The Chamber published its first issue of *Mining Review* in 1981, with a feature article, "Canada's North: A Development Nightmare." It was a fitting topic for the times as the investment climate "North of 60" had badly deteriorated.

Few understood the issue better than Robert Cathro, Chamber president (1982-1983). The co-founder of Archer Cathro & Associates had spent much of his career as a geological engineer in Yukon. He sent a brief to Ottawa to make politicians aware of the value of mining and the damage done by "poorly conceived" legislation.

He wasn't the only one.

FIRA AND NEP

Provinces have constitutional authority over natural resources, so it's no surprise that Prime Minister Trudeau was challenged as he introduced federal policies governing the ownership, development and marketing of Canada's natural resources.

The North, then largely administered by Ottawa, became a policy launch pad.

In 1974, Trudeau introduced the *Foreign Investment Review Act* (FIRA), in response to "concerns about foreign presence in the Canadian economy." An agency was set up to screen foreign acquisitions and new foreign businesses. In 1975, he funded Petro-Canada as a Crown Corporation, headed by Maurice Strong, to act as a "window on the [petroleum] industry." Wage and price controls followed next.

These policies were deeply resented in the West, and as a result, the Liberals did not win a single seat west of Manitoba in the 1980 election.

Yet soon after, Trudeau unveiled the *National Energy Policy* (NEP) as the cornerstone of his next budget. The ostensible goals were energy self-sufficiency, conservation and Canadian control of resources, which made it palatable if not popular in the East.

NEP was introduced as oil prices soared from a few dollars a barrel in the mid-1970s toward US$38 in mid-1982. Western producers couldn't benefit as they were forced by NEP to sell their oil at about half world prices. Thousands of people lost their jobs as companies pulled up stakes, capped wells and canceled projects.

The mining industry was hard-hit by the exodus, as dozens of American and multinational petroleum companies had established Canadian mineral exploration divisions during the 1950s through 1970s.

In 1982, Bob Cathro noted that "no less than 15 multinational corporations had closed Vancouver offices and/or terminated their exploration efforts in the region."

Almost 50% of the funds raised on the Vancouver Stock Exchange (VSE) for mineral exploration that year went south, to the US.

Canada was gripped by the worst recession since World War II, with double-digit interest rates, unemployment and inflation, and soaring federal debt and deficits.

JUNIOR REVIVAL

Hundreds of geologists were unemployed as major companies closed offices, slashed exploration budgets, even entire exploration departments. As John Brock noted at the Chamber's 1983 annual meeting, juniors appeared to be the only effective alternative for exploration financing left standing.

Juniors also have a better track record of discovery for less dollars spent, he added.

"The statistic, for the past 30 years, is roughly 40% of the expenditures for 60% of the discoveries."

Brock also made the point that juniors were better managed and had greater technical experience than before, as the bear market had "extinguished the ability of the less competent to survive, and a tightening of regulations by the authorities has encouraged a greater level of responsibility."

Brock's message was timely as the Hemlo gold discovery in Ontario was generating huge excitement and breaking trading volume records on the VSE. And the star of the show was Murray Pezim, a flamboyant Toronto-born promoter who came to Vancouver in the wake of the Windfall Scandal.

Hemlo had doubters as it had been drilled before with mixed results and the mineralization wasn't hosted in quartz veins typical of Ontario mines. Unable to find interest in Toronto, prospectors Don McKinnon and John Larche came to Vancouver, where Nell Dragovan's International Corona Resources optioned the project.

Pezim financed a drill program based on geologist David Bell's theory that it might be a new type of gold deposit. It took 76 holes to prove the theory and confirm that Hemlo was a potential mine. Lac Minerals expressed interest, but opted instead to pick up adjoining ground. Teck then became Corona's joint venture partner.

Noranda, meanwhile, inked a deal with Golden Sceptre and Goliath Resources, Vancouver juniors founded by Frank Lang and Richard Hughes.

The VSE was enjoying some of best years, thanks to juniors and gold.

Industry optimism rose in 1983 as Pierre Trudeau stepped down as Prime Minister after a "long walk in the snow" to ponder poll numbers suggesting his defeat.

"Separating Fact from Fiction"

By David Duval

My memories of the predecessor to AME BC date back to 1980 when *The Northern Miner* transferred me from Toronto to Vancouver where I took up the position of Western Editor. Jack Patterson was managing the Chamber at the time and he was still there when I left the paper in 1989.

Jack always had a great appreciation and respect for the grassroots segment of the minerals industry especially prospectors, bush geologists and drillers. I remember one year the Chamber had its closing party for the Cordilleran Roundup in a spacious dinning room near the top floor of the Hotel Vancouver. Some of the tables had been reserved and Jack was organizing the seating at the remaining tables. One consulting geologist complained about having to sit with a member of the drilling fraternity and Jack proceeded to rip a strip off the guy that I'm sure he remembers to this day.

The 1980s was a wonderful time to be in the minerals industry, especially in Vancouver where all the action was happening – good and bad. Working for an industry newspaper like The Northern Miner, you were of course always being hustled by promoters which helped to hone my skills "separating fact from fiction". Contrary to what my father always preached to me, I soon discovered there was such a thing as a free lunch – and drinks to go with it.

Things have changed dramatically since those days. It's been a long time since we've had a significant grassroots discovery in BC or in Canada for that matter – and the industry is worse off for it in my opinion. AME BC's biggest challenge in the future will be to promote government policies that enhance investment in this high risk/high reward but very vital sector. I have never subscribed to the notion that all the big deposits in Canada have been found – at least not since the giant Hemlo discovery in the mid-80s. The discovery outcrop was no more than 10 feet off the Trans Canada highway. I still have a sample which one day I hope to have assayed.

Jack Patterson Photo Credit: AME BC

The Liberals under John Turner were trounced in the 1984 election by the business-friendly Conservatives led by Brian Mulroney, who became Prime Minister that year.

VSE COUP

The resurgence of junior mining was timely for the VSE, which survived the 1970s mining downturn by financing oil-and-gas companies out of necessity. But behind the scenes, some independent-minded members were unhappy with the heavy concentration of eastern brokers and their general direction.

Peter Brown, then CEO of Canarim Investments Corporation, was among the small group of "western influences" who forced the VSE Board of Governors to accept nominations from the floor and change the balance of power in 1976.

The "palace revolution" ushered in a new era for the VSE.

"Once we made that decision and stopped apologizing for what we were, that was the start of regaining a new credibility," Brown said at the time.

A third-generation British Columbian, Brown began his career in the East in the early 1960s, but returned home after the Windfall scandal made it difficult to raise venture capital. Along with partner Ted Turton, he bought a small Vancouver brokerage for $23,000 in 1968, and positioned it to fill the gap in venture capital financing. He financed Corona — and hundreds of other juniors — and became a dominant underwriter on the VSE. Canarim, later Canaccord Capital, grew into one of Canada's largest independent investment dealers.

The VSE continued to have critics and an occasional scandal, such as the Beauford Resources pump-and-dump in 1987, but policy changes made a difference. A string of fines and suspensions (and seven-year sentences for the Beauford promoters) demonstrated that action was being taken to protect the integrity of the market.

FLOW-THROUGH

Gold remained a bright spot in the mid-1980s, but base metal prices were grim, with copper at only one-third of its 1965 value.

Donald Rotherham, Chamber president (1984-1985), noted that one of the most important changes of this time was the use of flow-through shares.

"These funds have enabled survival of the Canadian exploration in a form that it could not achieve by normal means," Rotherham said at 74th annual meeting.

Flow-through shares were used by the oil-and-gas industry to finance exploration and development. Vancouver-based Cordilleran Engineering, operated by John Stollery and Bert Reeve, was the first to use it for mineral exploration in 1969, based on advice from its legal counsel, Jurgen Lau.

In 1983, John Hansuld used the tax incentive to raise nearly $30 million for newly listed Canamax Resources. This captured broad attention and led to the formation of several limited partnerships specializing in raising flow-through capital.

Chamber president Charlie Aird (1986-

1987) noted that major companies with reduced earnings were increasingly dependent on flow-through financing.

"An interesting structural change took place with junior mining companies supplying flow-through shares in joint ventures with major companies [that] had dormant prospects stagnating from a lack of exploration funds," Aird said.

The economy took another hit in mid-1986 when oil prices collapsed to below US$9 a barrel as Saudi production flooded global markets. North American producers were devastated, and in the US, the collapse led to the savings and loans crisis. Gold prices reached US$500 per ounce in 1987 as the US dollar weakened.

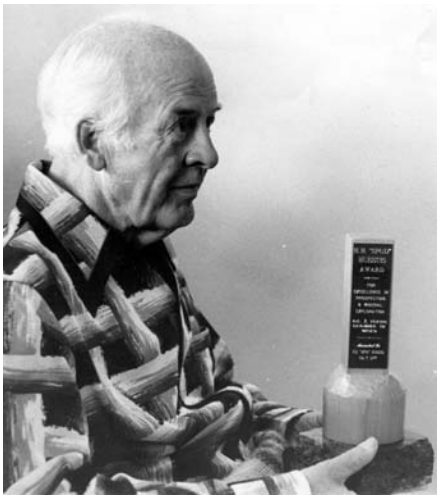
Coal prices fell along with oil, affecting BC's newly constructed Northeast Coal Project as Japanese steelmakers began demanding cuts in volume and price.

The BC government appointed a "Critical Industries Commissioner" to revive closed mines. Bell was the first to re-open, followed by Brenda and Endako.

The downturn prompted Canadian Pacific (CP) to put its 52.5% stake in debt-ridden Cominco on the block. In 1986, a Teck-led consortium acquired 31% of Cominco (CP sold the balance of its shares on the open market) to create Teck Cominco.

ROUND 'EM UP

The Chamber was struggling with its own finances during the mid-1980s, which prompted managing director Jack Patterson to brainstorm with then president Bob Cathro and (future president) Nick Carter during a ferry ride from Victoria. The idea was broached to have a three-day conference that would combine the Chamber's annual meeting with open houses hosted by the geological divisions of the federal, provincial and territorial governments, as all were poorly attended.



"Spud" Huestis was the first recipient of his namesake award presented annually (along with other awards) at Roundup
Photo Credit: AME BC

The idea crystallized with input from others into a fresh format that would appeal to a broad audience. The 1984

Nick Carter
Photo Credit: AME BC

Bob Cathro
Photo Credit: AME BC

Chet Idziszek and his exploration team at Eskay Creek
Photo Credit: TNM Files

"Cordilleran Geology and Exploration Roundup" was a success, attracting 700 attendees. The Core Shack also made its debut that year.

Attendance climbed to 1,500 by 1988, raising the Chamber's profile and its finances while also spurring the exchange of geological and technical information.

GOLD BUGS

Placer Development (renamed Placer Dome in 1987) was one of the first Canadian companies to make the transition into gold, starting with an interest in the Cortez gold mine in Nevada, which pioneered the heap-leach process in the early 1970s. Placer then developed other gold mines in the US, Australia and Papua New Guinea.

Another early "gold bug" was Peter Munk, who in 1983 formed a junior that became Barrick Gold, based on a view that gold mines in the Americas would be a safer investment than mines in South Africa. Until that point, six South African mining houses accounted for 71% of gold production and also dominated production of platinum group metals. But their mines were aging, deep, and relied on cheap black labor to operate, signaling an industry in decline.

Barrick, Newmont and Placer led Nevada's emergence as a world-class gold camp.

Nimble juniors were quick to join the gold hunt. Chester Millar (of Afton fame) helped pioneer heap-leaching to process low-grade gold ores in the 1970s. He saw potential for juniors to become producers on their own using the low-cost method, and proved his case at open-pit mines in the American West that became the foundations of growth for juniors Glamis Gold and later, Eldorado Gold.

Robert Friedland jumped into gold in the early 1980s. He had been Steve Jobs' (of Apple fame) first business partner in a hippie-era apple orchard/apple-cider venture in Oregon before forming Galactic Resources to develop a Colorado gold mine. Environmental problems plagued the Summitville heap-leach mine and ultimately forced its closure (Friedland would later make a Phoenix-like comeback).

Viceroy Resource Corp. achieved operating and environmental success at the Castle Mountain heap-leach mine in California.

And a heap-leach gold mine in California helped Ross Beaty's Equinox Resources make the transition into a gold producer.

In 1985, geologist Robert Dickinson formed a partnership with financier Robert Hunter, who had helped develop the Cannon gold mine in Washington State. After taking the helm of North American Metals, they advanced the Golden Bear project toward production. Homestake Mining later made a $40-million bid for the BC gold project and brought it into production in 1989.

Geologist Mike Muzylowski and financier Douglas McRae joined forces and together transformed Vancouver-based Granges Inc. into a mid-tier gold and base metal producer active in Manitoba and Nevada.

At the height of the "gold boom," the rug was pulled under the feet of juniors.

"1987 could be remembered for many things," Aird said. "For example, as the year exploration expenditures reached one billion dollars for the first time in Canada; or as the year that the US edged Canada out of third place in world gold production. Most likely though, it will be remembered as the year when the stock market fell 25% in one day, breaking all records."

The industry slowly recovered from the market crash. By 1988, BC had several gold mines at or near production such as Golden Bear near Dease Lake, Snip in the Iskut River region, Lawyers in the Toodoggone, Silbak Premier-Big Missouri near Stewart, Nickel Plate near Hedley, and other smaller operations. Dozens of projects were in the advanced exploration or development stages.

As the 1980s came to an end, so did a long-running lawsuit launched by Corona against Lac Minerals. The Supreme Court of Canada upheld lower court decisions that Lac had breached a fiduciary duty to Corona by misusing confidential information while they were discussing a possible joint venture in 1980. Lac was forced to relinquish the Williams mine, an extension to Corona's David Bell mine, to Corona and operating partner Teck.

In 1989, one of Pezim's companies, Calpine Resources, hit high-grade gold and silver at the Eskay Creek project in northwestern BC. The project, originally found by prospector Tom MacKay in the 1930s, was a joint venture with Stikine Resources managed by geologists Lawrence Nagy and Ron Netolitzky.

As with Hemlo, Eskay Creek had skeptics. This time Pezim and his geological team led by Chet Idziszek drilled 109 holes before hitting a high-grade zone that proved Eskay Creek was a mine in the making — a fitting end for a golden decade.

Kurt Dahlke and Mary Webster at Tats Glacier

Photo Credit: TNM Files

1990 TO 2000

Green Gauntlet and Greener Pastures

"Super-Royalty 1974, Windy Craggy 1993 — We will never forget."

Industry slogan in the wake of Windy Craggy, Vancouver

The 1990s opened on a "green" note in BC, as the era of mineral exploration in parks came to an end and a proposal to double parkland began in earnest.

Environmentalists had lobbied for years to ban exploration in Strathcona Park, where Westmin Resources operated a zinc-copper-lead mine, and finally succeeded — resulting in the expropriation of all pre-existing claims within the park boundaries.

Nick Carter, outgoing Chamber president in 1990, warned that more land withdrawals were to come, as proposals by environmental groups to double BC parklands had received a "favorable response" from both political parties.

"These issues are not going to go away. Indeed, a public opinion poll indicates that British Columbians rank the environment as today's most important issue."

While BC courts later ruled that compensation should be paid for expropriated claims within existing parks, the issue of land withdrawals outside of parks was uncertain. When the government launched "Parks Plan 90," environmentalists were quick to list almost every BC watershed and forest as "endangered" and in need of "protection."

The industry was left scrambling. As William (Bill) Wolfe, Chamber president (1990-1991) noted, land-use skirmishes since the 1980s had increased to the point where the Chamber's ability to respond was "severely compromised." Annual budgets for the top 20 environmental groups in North American then totaled $685 million, he noted, a far cry from the Chamber's $200,000 annual operating budget.

"The question to be answered is: how much uncertainty can the mineral tenure system tolerate before resulting in potential flights of investment capital?"

The Chamber set up a parks and wilderness committee and joined forces with the Mining Association of BC to have a stronger voice in the land-planning process.

Meanwhile, uncertainty grew on other fronts as the economy weakened.

Gold came under pressure from central bank sales and forward selling by producers, with prices reaching a low of US$345 per ounce in 1990. The Bank of Canada was the largest seller of gold in North America in 1991, at almost 1.8 million ounces. Other nations sold gold from reserves, including the Soviet Union and China.

The downturn reversed the fortunes of Royal Oak Mines led by metallurgist Margaret Witte (Kent), which achieved initial success in the late 1980s by reviving the Pamour and Giant mines in Ontario and NWT, respectively. A strike at the Giant mine in 1992 escalated into violence when nine replacement miners were killed in an underground explosion. Roger Warren, a union miner, was subsequently convicted of the crime.

The collapse of the Soviet Union in the early 1990s also depressed prices for base metals as markets were flooded with stockpiled supplies. By 1992, BC exploration spending was $72 million, compared to $230 million in 1988.

At this stage, the future for mining looked grim. In a 1989 interview with *The Northern Miner,* Cominco executive Bob Hallbauer was candidly pessimistic about the ability of governments to deliver "reasonable policies" with respect to environmental issues, the approval process and other mining matters.

"People [in mining] say we don't tell our story. But in my lifetime, we've put lots of documents before the government.

"Government has the power to make or break mining."

Jack Patterson, Gill McDougall, and Bruce Downing at Windy Craggy
Photo Credit: TNM Files

DÉJÀ VU

Political uncertainty reared its head as Premier Bill Vander Zalm — Socred leader since Bill Bennett retired in 1986 — resigned in 1991 because of a conflict-of-interest controversy involving his Fantasy Gardens theme park. An election later that year with Rita Johnston as the new leader saw the Socreds reduced to seven seats.

The NDP was in power again, this time under a new leader, Michael Harcourt.

"We don't want to see mining become a sunset industry," Premier Harcourt told an industry audience, adding that he intended to "streamline" the mine development review process and make it "time-specific" and a "one-window" process.

The Premier reaffirmed his party's policy to double parkland, but said compensation would be paid for the loss of pre-existing rights in new parks or wilderness areas.

Soon after, the government released a discussion paper with 44 recommendations, including making the Ministry of Environment Lands and Parks the lead agency for the mine review process. Allowing the mines ministry to continue in this role "would create an underlying perception of bias and conflict of interest." It was a curious rationale as the environment ministry would also be in charge of park creation.

"Some of the proposals involve drastic changes that will move us light years away from the way we now look, find, explore and develop mines," said Jack Patterson.

Patterson also challenged the government's decision to set up its own panels to study "controversial projects," such as Windy Craggy in northwestern BC.

"Who will pay for all these studies and how impartial will these panels be?"

At the same time, the government set up a commission of inquiry headed by Richard Schwindt, a Simon Fraser University professor, to examine "fairer, less confrontational" methods for settling compensation of expropriated resources.

The Chamber and industry called for compensation based on fair market value, as Premier Harcourt initially promised, yet Schwindt's report recommended limiting compensation to costs accrued for only the last five years. Mining leases would be compensated at market value, but only those with a bankable feasibility study.

Chamber manager Jack Patterson voiced industry concerns that if the report was implemented, "it will destroy the security of mineral tenure and make valueless the mineral inventory we have accumulated for more than 150 years."

Sandy Laird, vice-president of project development for Placer Dome, warned that such policies would lead companies to pursue global opportunities.

"Countries such as Chile and Mexico are reducing impediments to investment," Laird said. "In Canada, and particularly in British Columbia, the opposite is true."

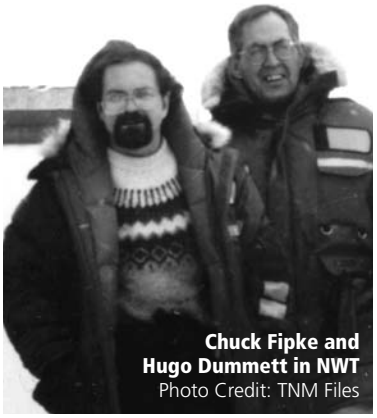
Given conditions at the time, it came as no surprise when Placer Dome deferred a decision to develop the Mt. Milligan copper-gold project near Prince George, acquired for $258 million in 1990 from Continental Gold, a Hunter Dickinson company.

DIAMONDS

Diamonds in the Northwest Territories (NWT) and emerging opportunities in Mexico, Central and South America stole the show at the 1992 Cordilleran Roundup.

The diamond buzz came from Dia Met Minerals, formed in 1984 by geologists Charles Fipke and Stewart Blusson, and its Lac de Gras discovery in late 1991. The

Ekati Spirit Diamond
Credit: BHP Billiton Canada Inc.



Chuck Fipke and Hugo Dummett in NWT
Photo Credit: TNM Files

project had skeptics, given the fruitless search for diamond mines in North America by De Beers and others over many decades. Fipke and Blusson had been part of that hunt since the late 1970s, along with Hugo Dummett, then with Superior Oil.

Fipke's 10-year prospecting odyssey across the NWT is now the stuff of legend. The discovery reflects scientific advances such as geochemical techniques detailed in Fipke's study, *The Development of Advanced Technology to Distinguish Between Productive Diamondiferous and Barren Diatremes* (released by the GSC in 1990).

Dummett played a vital role by convincing BHP Minerals to back the project, which became Ekati, Canada's first diamond mine, in 1998. A second mine, Diavik, followed, developed by partners Kennecott and Aber Resources. Snap Lake, discovered by Winspear Resources, was developed into a mine by De Beers Canada.

The diamond rush was notable for the presence of women geoscientists who later formed their own juniors. Among them was Aber's Eira Thomas, who was instrumental in the discovery of kimberlites that became the Diavik mine.

Capital and brain power from the West helped create Canada's diamond industry.

WINDY CRAGGY

Few mineral deposits achieve "world-class" status, but Windy Craggy achieved this distinction and came to represent "the future of copper mining in BC," as the generation of mines developed in '60s began nearing the end of their lives.

Geologist Jim McDougall of Ventures (Falconbridge) discovered the copper-gold-silver-cobalt deposit in 1958, by following up targets identified by aerial prospecting and reconnaissance surveying. Windy Craggy was determined to be a volcanogenic massive sulphide deposit, which typically occur in clusters in favorable mineral belts.

Geddes Resources optioned Windy Craggy in 1981, and spent $50 million to advance it to the mine development review stage. The proposed 20,000-tonne-per-day mine would extract 297 million tonnes averaging 1.4% copper over 20 years. The $550-million mine was projected to directly employ 500 people, create another 1,500 indirect jobs and generate tax revenue and spinoff economic benefits.

Environmental groups took aim at the project, pouncing on every aspect of the mine plan, such as seismic risk, fisheries and acid rock drainage. They claimed that a mine would "destroy" the wilderness qualities of the Tatshenshini River for rafters.

Geddes pointed out that its deposit was 18-25 kilometres from the Tatshenshini River, that local fish catches were minimal, and that lime-rich rocks in the area would neutralize acidity to protect water quality and fishery resources.

"We plan to use only one-tenth of 1% of the land in the area, including the access road," Geddes Chairman Howard Cadinha told reporters at the time.

The controversy escalated as Tatshenshini Wild, representing 50 environmental groups from the U.S. and Canada, spearheaded a high-profile international campaign to "protect the endangered river and region," helped by US Senator Al Gore.

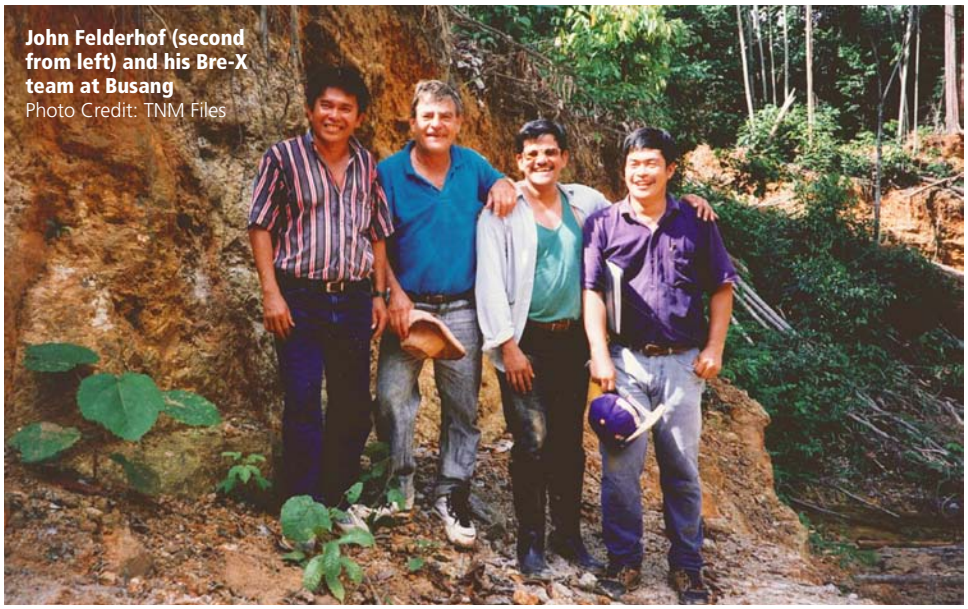
In response, the NDP government suspended the mine review process and turned the mine's fate over to the Commission on Resources and the Environment (CORE) led by Stephen Owen. Six months later, CORE outlined three options for the government to consider: create a protected wilderness area; allow mining only in 25% of the area and protect the balance; or delay the decision.

By this point, Royal Oak Mines had become the major shareholder of Geddes.

On June 22, 1993, the NDP government announced the creation of Tatshenshini-Alsek Park, withdrawing almost a million hectares of highly prospective ground from mineral exploration. The world-class Windy Craggy deposit was expropriated, along with claims held by more than 20 companies and individuals in the region.

The reaction from the mining community was shock and outrage. People took to the streets of Vancouver in protest, waving placards that read: "Super-Royalty 1974, Windy Craggy 1993 — We will never forget."

The Chamber and almost every senior mining executive in BC slammed the decision.



John Felderhof (second from left) and his Bre-X team at Busang
Photo Credit: TNM Files

"It wasn't just Windy Craggy," said Teck Chairman Norman Keevil Jr., "it was one of the best hunting grounds we have for new deposits."

The government later negotiated a compensation plan with Royal Oak, tied to development of the company's Kemess copper-gold project in BC.

Many juniors bailed to other jurisdictions, saying the "risks" were too high in BC.

The Chamber continued to take part in land resource management plans (LRMPs) tied to the government's Protected Areas Strategy (PAS), relying on dedicated volunteers to do the heavy lifting. But as participant Dave Barr noted in his book, *One Lucky Canuck*, the process was flawed from the start. It was "heavily biased" toward protection and focused on surface resources such as forests without proper regard for the future definition of subsurface resources.

INDUSTRY EXODUS

The Windy Craggy decision led to an exodus of senior and junior mining companies from BC at a time when new opportunities were opening up around the world.

Chamber president Gerald Carlson noted in 1995 that despite record levels of financing on the VSE, exploration activity in BC was at an all-time low.

"Business is booming, but the trouble is, it's all offshore."

Some juniors found success in Mexico, such as Eldorado Gold, which opened a gold mine there under the guidance of Mike Beley and Richard Barclay in 1992.

Other juniors went to South America, such as Clive Johnson's Bema Gold, then advancing the Refguio gold project in Chile. Cathy McLeod, daughter of mine-builder Don McLeod, and geologist David Lowell formed Arequipa Resources to explore the Pierina gold project in Peru. Barrick Gold bought Arequipa for $668 million in 1996.

Juniors also flocked to Labrador, where a Vancouver junior

exploring for diamonds found a nickel-copper-cobalt deposit at Voisey's Bay. Teck bought 10.4% of Diamond Fields Resources, led by Robert Friedland and Jean-Raymond Boulle, soon after for $108 million. In 1996, Inco won a bidding war with Falconbridge to acquire the project.

And dozens of juniors headed to Indonesia, where Bre-X Minerals, a Calgary-based junior was generating excitement at its Busang gold project.

Hopes for an improvement in BC's investment climate were dashed when the NDP won a second term in 1996, under new leader Glen Clark. Harcourt resigned in 1995, over a NDP bingo-fundraising scandal (of which he was later exonerated). On the federal scene, the Liberals were back in power under Prime Minister Jean Chretien.

BRE-X

Scandal hit the mining industry in 1997, after an audit revealed that placer gold had been systematically introduced ("salted") into drill core at the Busang project in Indonesia. Bre-X shares once worth more than $100 fell to pennies. Junior companies bore the brunt of the market meltdown that followed.

Bre-X was initially listed on the Alberta Exchange rather than the VSE (founder David Walsh wasn't a fan of VSE policies at the time), and later upgraded to Toronto.

BC had its share of salting scams that led to public complaints, but swift action was taken. In 1895, the BC government introduced legislation to ensure that all assayers were fully trained and qualified. The province is still the only jurisdiction in the world that requires assayers to pass written and practical certification examinations. For these reasons, BC became known as the "assay capital" of the world.

The Toronto Stock Exchange and the Ontario Securities Commission set up a Mining Standards Task Force as a first step to restoring investor confidence; two members, Ed Kimura and Neil Hillhouse, were from BC. A new set of rules and guidelines for the disclosure of mineral exploration results, including the classification of reserves and resources, was introduced as National Instrument 43-101. The concept of having a "Qualified Person" with responsibility for mineral projects was also introduced.

The industry languished for the rest of the decade, as investment capital flowed to emerging "dot-com" technologies. Mining was portrayed by some pundits as a "sunset industry," in marked contrast to the then-booming "New Economy."

ROCK BOTTOM

BC's mining industry hit rock bottom in 1999, with exploration spending at a mere $25 million. The Chamber and other industry representatives officially withdrew from the LRMP process that year, partly because it was dominated by disputes between forestry and environmental groups, with scant attention paid to mineral resources.

Another reason was that even after parkland was doubled to 12%, proposed "park study areas" brought to 18% the total of withdrawn lands. Yet another 20% of the land base was blanketed with "special management zones" where the industry dared not explore, as there was no certainty mining would ever be allowed.

But the most frustrating problem, according to LRMP participant Dave Barr, was the "protectionist-oriented bias" of the majority of LRMP members. Even presentations made by government geologists were viewed as "unwelcome and interfering."

In a *Northern Miner* editorial, Barr wrote that since 1990, only one mine had opened for every two that closed — and not because BC lacked mineral potential.

"A strong message is required from the government that adherence to regulations protecting the environment and rights of access and tenure will be upheld," Barr wrote. "Only this will remove the uncertainty resulting from protectionist land-use policies and overlapping, conflicting, confusing and frustrating requirements."

Mount Milligan Mine under construction, 2011

Photo Credit: Thompson Creek Metals

2000 TO 2012

Industry Consolidation and Global Change

"It doesn't matter if a cat is black or white, so long as it catches mice."
- Chinese adage on market reforms, 2000s

The BC & Yukon Chamber of Mines entered a new century with new challenges and plenty of old ones, as Bruce McKnight discovered as executive director following the 1998 retirement of Jack Patterson after 18 years of dedicated service.

The government forged ahead with BC's land-planning process despite the industry's withdrawal. Activists also lobbied for a "Yellowstone to Yukon" wilderness corridor.

Access to capital was a daunting challenge, not because it was scarce, but rather, as one executive put it, because the dot-com bubble was a "giant vacuum cleaner, sucking money from all other sectors, and none more so than our industry."

Industry consolidation was inevitable, initially played out by big companies targeting each other. Rio Tinto swallowed Australia's North Ltd. (and its Canadian iron ore subsidiary), Groupo Mexico acquired Asarco (and its Peruvian copper subsidiary), and Phelps Dodge took over Cyprus Amax — just for starters.

Supply and service companies also shrank in numbers as assay labs, drilling companies and engineering firms consolidated to survive the downturn. Capital markets consolidated too, as small independent brokerage firms merged or lost market share to the expanding brokerage arms of big banks.

The VSE was no more, having merged with the Alberta Exchange to form the Canadian Venture Exchange (CDNX) in 1999. Two years later, CDNX was acquired by the Toronto Stock Exchange and renamed the TSX Venture Exchange.

The September 11, 2001 terrorist attack on the US led to political and economic changes. The porous open border of the previous century was no more.

CONSTANT CHANGE

BC's political landscape shifted in 2001, as voters tossed out the NDP government led by Premier Ujjal Dosanjh, who won the party leadership after Premier Glen Clark resigned because of a casino-related scandal. As the Social Credit party was no more, its former supporters rallied behind the victorious Liberal Party led by Gordon Campbell. The NDP barely survived with three seats.

The dot-com bubble crashed during these years, marked in Canada by the meltdown of Nortel, and capital began to trickle back to bargain-priced resources. "Super" flow-through shares and tax cuts in BC helped improve the investment climate.

Donald McInnes, Chamber president (2000-2001), said that companies who remained in BC were the best positioned to benefit as markets turned.

"We have only the best horses and jockeys left," he said.

Many of the "best horses" initially gravitated to development projects or past-producing mines. One example was Taseko Mines (a Hunter Dickinson company), which reopened the Gibraltar copper mine in 2004. Imperial Metals, which had suspended operations at its Mount Polley mine near Williams Lake in 2001, made a high-

Office opening in 2003 (left to right): Gerry Carlson; Mike Beley; Lindsay Bottomer; Shari Gardiner; Donald McInnes; Nick Carter; Bill Wolfe (seated) Don Rotherham; Richard Neufeld, Minister of Energy and Mines; Ralph Macdonald; Don Mustard. Photo Credit: AME BC

grade copper-gold discovery two years later that led to a re-opening in 2005.

The Chamber elected its first woman, Shari Gardiner, as president (2002 to 2003), and relocated to 889 West Pender Street after selling Mining House for $1.75 million.

The most dramatic change of the decade was the emergence of China, India and other developing nations as the economic engine of the global economy.

China, in particular, was racking up double-digit growth rates as the communist government adopted "socialist" market reforms. As then leader Deng Xiaoping told the people, "It doesn't matter if a cat is white or black, so long as it catches mice."

BC exploration spending soared to $130 million in 2004, up from $52 million in 2003.

"It looks like we're in a sustained commodity rally driven by Chinese demand and, to some extent, by India," said Michael Gray, outgoing Chamber president in 2005.

Gray noted that 25% of the world's mining and exploration companies, about 700, were based in Vancouver. BC was "number one in the world" for raising exploration capital and for its talent pool of geoscientists and industry support specialists.

"This natural economic cluster is the envy of the world," Gray said.

The strong markets led to a revival of undeveloped projects in northwestern BC, such as the large Galore Creek copper-gold deposit held by Novagold. Coal came back to life, including the previously hard-hit northeastern BC coalfields.

Change also came to Yukon, as Dennis Fentie was elected Premier in 2002. His priority was to rid the territory of "unnecessary and detrimental policies towards mining and exploration," specifically the Protected Areas Strategy promoted by the previous NDP government.

In April, 2003, Yukon won its hard-fought struggle for devolution in order to gain control of its lands, water and resources from the federal government, and the ability to collect royalties and other revenue that previously went to Ottawa.

"The North is coming of age," Fentie said. "We are now masters in our own house."

Exploration spending in the territory jumped to $150 million by 2010 from $8 million in 2000. The number of operating hard-rock mines went from none in 2002 to three by 2011: Minto (copper-gold), owned by Capstone Mining; Alexco Resource Corp.'s Bellekeno in the famous Keno Hill Silver camp; and Wolverine (zinc-silver-copper-lead-gold) operated by privately held Yukon Zinc Corp.

Yukon had the advantage of mostly settled (11 out of 14) native land claims, in contrast to British Columbia, where few claims were settled in a new century.

The Chamber became the Association for Mineral Exploration British Columbia (AME BC) in 2006. David Caulfield, the "first" AME BC president, said the rebranding reflected the exploration focus of most members. Also, AME BC no longer represented the Yukon, which had its own Chamber of Mines.

ABORIGINAL ENGAGEMENT

Change came slowly to BC's Aboriginal communities. In 1949, the province was the first in Canada to give natives the vote, resulting in the first Status Indian to be elected to any legislature in Canada. Frank Calder won the riding of Atlin that year for the CCF (NDP predecessor) and later for the NDP, serving until 1979.

A 1927 law that made it illegal for First Nations to pursue land claims through the courts was repealed in 1951. The federal vote was extended to Registered Indians in 1960, by Prime Minister John Diefenbaker, a Saskatchewan Conservative.

"I felt it was so unjust that they didn't have the vote," he said at the time.

Calder helped revive the longstanding claim of the Nisga'a, which led to the first Aboriginal court victory in 1973. Their action, *Calder v. Attorney-General of British Columbia,* went all the way to the Supreme Court of Canada, which ruled that Canadian law did recognize Aboriginal rights to land based on historic occupation. However the court split evenly on whether such rights could be extinguished by law.

In 1984, the Gitksan and Wet'suwet'en hereditary chiefs launched an action to assert rights to their traditional territories in the Skeena watershed. *Delgamuukw v. British Columbia* was the first case to consider oral histories. In 1991, the court found that they had some "subsistence" rights in these lands, but not ownership or jurisdiction, as such rights were "extinguished" by colonization and pre-colonial legislation.

BC First Nations became more vocal in the late 1980s, with several blockades generating publicity and public sympathy for their case. Then Premier Vander Zalm set up a native affairs advisory committee to consider "policy options."

Bill Wolfe, then Chamber president, said attitudes began to soften from the hard-line "colonization" mindset. Industry representatives took part in a treaty negotiations committee, but by most accounts, little was achieved except "bickering" between government negotiators. Ottawa wanted BC to give up more land so it would pay less money, whereas the province wanted the opposite.

Meanwhile, the hereditary chiefs appealed the Delgamuukw ruling. In 1993, the BC Court of Appeal found that they had some "unextinguished, non-exclusive Aboriginal rights," but dismissed their claim to title. A year later, they were given leave to appeal by the Supreme Court of Canada (SCC).

The SCC's landmark Delgamuukw decision of 1997 did not rule on the land claim, but did determine for the first time that "Aboriginal rights are not dependent on any legislative or executive instrument for their existence." It affirmed their protection under the 1982 *Constitution Act* and upheld oral histories as proof of historical facts.

In 2000, the Nisga'a Nation signed the first modern-day treaty with the federal and provincial governments, culminating a quest that began in 1890.

The Chamber set up a committee and resolved to produce a guidebook to help companies better understand Aboriginal issues and concerns. McKnight also arranged to have Bob Joseph, a status Indian and the founder of Indigenous Corporate Training, give one-day workshops that were illuminating and well received.

Dan Jepsen then joined the Chamber as executive director, bringing his experience as a manager of Aboriginal affairs and environment for Western Forest Products.

"It was then generally accepted that First Nations were a major 'problem' deterring access and confidence in investment," Jepsen said. "But they are not stakeholders; they are owners and occupiers of their traditional lands for time immemorial."

The Tahltan Heritage Environmental Assessment team meets with Seabridge Gold representatives at the KSM project in Northwestern BC

The Chamber's policies shifted toward direct engagement with Aboriginal leaders.

The shift in policy was timely as the SCC in 2004 released anticipated decisions in two cases heard concurrently — *Haida Nation v. British Columbia and Taku River Tlingit First Nation v. British Columbia* — addressing the duty to consult with and accommodate Aboriginal peoples whose claims remain unresolved. The court ruled that governments must consult Aboriginal peoples and accommodate their interests in good faith, whereas third parties have no such duty.

Notwithstanding, AME BC and industry leaders took the position that consultation was the best option. As Jepsen said, uncertainties related to the treaty process didn't preclude companies from engaging with First Nations outside the treaty process.

AME BC released an Aboriginal Engagement Guidebook at Roundup 2005, followed by an Aboriginal Engagement Toolkit to supplement the booklet. It also added First Nations sessions to Roundup, which now begins with an Aboriginal welcome

BC was the first province to adopt a revenue-sharing policy in which a portion of the taxes paid to government by new mines is directed to local Aboriginal groups.

AME BC President Gavin Dirom and BC Cabinet Minister Kevin Falcon at Roundup 2011 Photo Credit: AME BC/Brian Dennehy

CSR

Corporate Social Responsibility (CSR) was an essential cornerstone for resource development by the 2000s, in contrast to the pioneer era when the environment took a back seat to economic growth. In 1896, for example, an article in *the Trail Creek News* described the plumes of smoke from a new smelter as the "advancement of the progress of the West Kootenay district," as it offered employment to "thousands upon thousands of people" in the smelter and at nearby mines. And with no social safety net at that time, the point was well taken.

Today, jobs and economic benefits are no longer the sole measure of a mine.

Large-scale projects developed in the 1990s — Ekati in the NWT and Voisey's Bay in Labrador — were the first to undergo rigorous assessments in which environmental, Aboriginal (including Traditional Knowledge) and social values were given as much consideration and weight as the technical and economic aspects of the project.

Vancouver-based Rescan, an environmental services firm founded by Clem Pelletier in 1981, won contracts for both projects. Environmental and CSR consulting firms grew during the decade, some as partnerships with Aboriginal groups.

AME BC and other industry associations released CSR guidebooks and tools to help companies operate responsibly at home and abroad. Along with guidance on environmental protection, Aboriginal Engagement and Community Consultation, they cover human rights, health and safety, and ethics and corporate governance.

BIG, BIGGER, AND GONE

Industry consolidation that began in the early 2000s accelerated beyond most expectations, as Norman Keevil Jr., Teck chairman, told delegates at Roundup 2008.

"Western Mining has gone, Noranda/Falconbridge has gone, Inco has gone, Phelps Dodge has disappeared, Placer Dome has been swallowed up, and Alcan has been bought out by Rio Tinto," Keevil said. "In fact, since 1980, of the world's 16 largest mining companies at the time, after Rio Tinto and BHP, 12 have disappeared."

A new crop of mid-tier companies emerged, but many grew through takeovers as well. Goldcorp's friendly merger with Wheaton River was a notable example, as they combined after each made a string of acquisitions to become larger entities.

Keevil said the urge to merge isn't surprising, given the long lead times to permit and build new mines "Any new project decision has to be based on expected prices five to ten years into the future — and not this year or next."

A consequence of the lean years and long lead times, Keevil said, was fewer discoveries, as companies focused instead on known deposits and prospects.

And with fewer majors on the scene, more juniors went global in search of projects and buyers. Some picked up deposits dropped by majors in the downturn, such as Canico Resource Corp., which sold a nickel project to Brazilian miner Vale for $940 million. Chinese state-owned firms also went shopping in the junior mining sector.

While the number of majors declined dramatically, Keevil noted that as of 2008, 180 mining companies listed on the Toronto Stock Exchange had a market cap of more than $200 million — "a wel-

come breath of fresh air for the industry, given the haste at which existing producers are swallowing each other up."

EYES FORWARD

Gavin C. Dirom, hired as the new president and CEO of AME BC in the fall of 2008, faced the prospect of more lean years as a global market meltdown hit the industry. Raising capital wasn't easy in 2009, but China's economic growth led to a recovery. By 2010, BC exploration spending was $322 million, up from $154 million in 2009, helped by gold topping US$1,200 per ounce and copper near US$4 per pound.

The Quesnel Trough, a belt in the central interior hosting many of BC's mines, became an exploration hot-spot, helped by government geoscience initiatives.

Dirom cited 25 potential mine projects in BC's permitting process, "representing an economic and social opportunity equal to $10 billion in investment and 68,000 jobs."

Many of the projects poised for production are copper or copper-gold deposits, notably Mount Milligan (Thompson Creek Metals), Prosperity (Taseko Mines), Red Chris (Imperial Metals), and New Afton (New Gold Inc.), to name a few.

Another positive event, helped by AME BC lobbying, was the announcement of $130 million in federal funds for the Northwest Transmission Line along the Highway 37 corridor in northwestern BC — a region hosting BC's "next generation of mines."

Some old challenges remained, with little progress made to achieve a "one window" permitting process promised by many governments over many years.

"We need a single, timely and effective environmental assessment process that provides increased certainty for everyone," Dirom said. "Proponents should not need to navigate separate, typically uncoordinated, inefficient and duplicative federal and provincial assessments."

More prospective lands were withdrawn, notably in the Flathead Valley in the southwest. Uranium exploration was banned yet again. The political scene was unsettled, with five different mines ministers in a few years. And in late 2010, Premier Campbell resigned as his popularity plummeted after imposing a harmonized sales tax. Christy Clark won the leadership of the Liberal Party and became Premier.

As 2012 approached, the industry was much changed from a century earlier when AME BC's predecessor was founded. Those pioneers likely had no idea that satellite imagery and remote sensing would be part of the explorer's arsenal. They would be amazed by the diversity of mineral projects, such as rare earths and other specialty metals powering the modern age. The presence of women, Aboriginal peoples and visible minorities would be a dramatic change from yesteryear, perhaps unsettling for some. But having risked life and limb in the quest for metals and minerals, they would no doubt appreciate the rigorous emphasis on safety for all workers, as championed over the years by the Chamber and AME BC.

The Next Generation at Mineral Exploration Roundup 2011
Photo Credit: AME BC/Brian Dennehy

What hasn't changed is the spirit of optimism that continues to drive the industry, its evolution and its achievements. This spirit is what has kept the Chamber and AME BC vibrantly alive for more than a century. The glass is always half full, there is a silver lining in every dark cloud, and the Big One is always still out there, waiting to be found.

PRESIDENTS AND AME BC AWARDS

PRESIDENTS AND CHAIRS

Robert R. Hedley, 1912 ~ L.W. Shatford, 1913 ~ Dean R.W. Brock, 1914 ~ J.M. Turnbull, 1915 ~ Nicol Thompson, 1916-1917, 1929 ~ A.B. Claydon, 1918 ~ Arthur M. Whiteside, 1919 ~ E.T. Lodge, 1920 ~ J.M. May, 1921 ~ Frank E. Woodside, 1922-1928 ~ Victor Dolmage, 1930-1934 ~ W.B. Burnett, 1935-1940 ~ Gomer P. Jones, 1941 ~ A.E. Jukes, 1942-1946 ~ M.M. O'Brien, 1947-1951 ~ Harry V. Warren, 1952-1954 ~ S.J. Crocker, 1955 ~ Henry L. Hill, 1956-1957 ~ James A. Pike, 1958 ~ Christopher Riley, 1959-1960 ~ R.E. Legg, 1961-1962 ~ Gavin A. Dirom, 1963-1964 ~ J.A. Gower, 1965-1966 ~ Ralph C. Macdonald, 1967-1968 ~ Len G. White, 1969-1970 ~ Edward H. Caldwell, 1971-1972 ~ Edgar A. Scholz, 1973-1974 ~ Robert F. Sheldon, 1975-1976 ~ William St. C. Dunn, 1977-1978 ~ Donald K. Mustard, 1979-1981 ~ R.J. (Bob) Cathro, 1982-1983 ~ Donald Rotherham, 1984-1985 ~ C.A. (Charlie) Aird, 1986-1987~ Nick Carter, 1988-1989 ~ William J. Wolfe, 1990-1991 ~ Michael J. Beley, 1992-1993 ~ Gerald C. Carlson, 1994-1995 ~ H. Walter Sellmer, 1996-1997 ~ Lindsay Bottomer, 1998-1999 ~ Donald McInnes, 2000-2001 ~ Shari Gardiner, 2002-2003 ~ Michael Gray, 2004 ~ David Caulfield, 2005 ~ (Volunteer Presidents replaced by Chairs in 2006) Rob Pease, 2006-2007 ~ Rob Stevens, 2008-2009 ~ Lena Brommeland, 2010 ~ Mona Forster, 2011

AME BC AWARDS

H.H. "SPUD" HUESTIS AWARD For Excellence in Prospecting and Mineral Exploration

1977- Spud Huestis ~ 1979 - Karl Springer ~ 1980 - Bern Brynelsen ~ 1981 – Bill Smitheringale, Sr, ~ 1982 – Alex Smith ~ 1983 – Egil Lorntzsen ~ 1984 – Andy Robertson ~ 1985 – Tom McQuillan ~ 1986 – Harry Warren ~ 1987 – Jim McDougall ~ 1988 – Stu Barclay ~ 1989 – Ted Chisholm ~ 1990 – Efrem Specogna ~ 1991 – John Stollery ~ 1992 – Mark Rebagliati ~ 1993 – Eric Denny ~ 1994 – Franc Joubin ~ 1995 – Gordon Milbourne ~ 1996 – Bruce Mawer ~ 1997 – Stu Blusson, Chuck Fipke ~ 1998 – Al Archer, Bob Cathro ~ 1999 – Richard Haslinger, Sr. ~ 2000 – John McDonald, Robert Etzel & Arthur John ~ 2001 – Lorne Warren ~ 2002 – Mark Baknes ~ 2003 – Peter Fox ~ 2004 – Patrick McAndless ~ 2005 – Ed Balon ~ 2006 – J.C. "Cam" Stephen ~ 2007 – John Robins, Lawrence Barry ~ 2008 – Michael Savell ~ 2009 – Shawn Ryan ~ 2010 - David Moore & Myron Osatenko ~ 2011 - Dirk Tempelman-Kluit and Peter Bernier

E. A. SCHOLZ AWARD
For Excellence in Mine Development

1981 – John Simpson ~ 1982 – Harvey Parliament ~ 1983 – Harold Wright ~ 1984 – Bob Hallbauer ~ 1985 – Edgar Kaiser, Jr. ~ 1986 – Norm Anderson ~ 1987 – Norm Keevil, Jr. ~ 1988 – Don McLeod ~ 1989 – Chester Millar ~ 1990 – Bern Brynelsen ~ 1991 – Albert Reeve ~ 1992 – Clifford Frame ~ 1993 – Tony Petrina ~ 1994 – Hank Ewanchuk ~ 1996 - Ron Netolitzky ~ 1998 – Pierre Lebel ~ 1999 – John Kalmet ~ 2000 – Joe Adie ~ 2001 – Ken Stowe, Terry Lyons, Maurice Ethier, Michael Hibbitts (Northgate Team) ~ 2002 – Frank Amon, Jim Clark, Terry Marsten, Rod Killough (Highland Valley Copper Team) ~ 2003 – Gary Biles, Ian Cunningham-Dunlop, Dave Kuran, Jim Rogers (Eskay Creek Team) ~ 2004 – David Thompson, Michael Lipkewich (Teck Cominco Team) ~ 2005 – Jim O'Rourke ~ 2006 – Bryan Kynoch ~ 2007 – Ron Thiessen ~ 2008 – Scott Broughton, John Mirko, David Skerlec (Roca Team) ~ 2009 – Stephen Quin, Bruce McLeod ~ 2010 – John McManus, Robert Rotzinger ~ 2011 – Clynton Nauman, Bradley Thrall

MURRAY PEZIM AWARD
For Perseverance and Success in Financing Mineral Exploration

1999 – Murray Pezim ~ 2000 – Peter Brown ~ 2001 – Bob Hunter ~ 2002 – John Brock ~ 2003 – John Tognetti ~ 2004 – Ian Telfer ~ 2005 – Ned Goodman ~ 2006 – Adolf Lundin ~ 2007 – Rick Rule ~ 2008 – Robert Quartermain ~ 2009 – Channing Buckland ~ 2010 – Cal Everett ~ 2011 – Mark O'Dea

HUGO DUMMETT AWARD
For Excellence in Diamond Exploration and Development

2004 – Hugo Dummett ~ 2005 – John Gurney ~ 2006 – John Stephenson, Grenville Thomas, Buddy Doyle, Robert Hindson, (Diavik Team) ~ 2007 – John McDonald, Walter Melnyk, Nikolai Pokhilenko, Randy Turner (Snap Lake Team) ~ 2008 – George Read, Ken MacNeill, Pieter Du Plessis, Harvey Bay (Shore Gold Team) ~ 2009 - Barbara Scott Smith ~ 2010 - Brooke Clements, Robert Lucas, Pierre Bertrand ~ 2011 – Jon Carlson

COLIN SPENCE AWARD
For Excellence in Global Mineral Exploration

2006 – Ross J. Beaty ~ 2007 – Roman Shklanka ~ 2008 – Charles Forster ~ 2009 – Mark Rebagliati ~ 2010 - David Adamson, Mathew Wunder, Ian Russell, Terry Bursey, Crystal McCullough (The Rubicon Team) ~ 2011 –Jeff Pontius and the International Tower Hill Mines Exploration Team

ROBERT R. HEDLEY AWARD
For Excellence in Social and Environmental Responsibility

2007 – Ann Ball, Doug Brown, Susan Craig, Rick Van Nieuwenhuyse (NovaGold Team) ~ 2008 - Robert Carpenter ~ 2009 – Judi L'Orsa ~ 2010 - Ian Thomson ~ 2011 – Britannia Mine Museum

FRANK WOODSIDE PAST PRESIDENTS DISTINGUISHED SERVICE AWARD
For Recognition of Outstanding Service to AME BC

1994 - Dave Barr, Ron Stokes, Fraser Crocker ~ 1995 - Colin Spence, Geoff Whiton, Dan Pegg ~ 1996 - Cam Stephen, Bob Spencer, Sanford Woodside ~ 1997 - Gavin Dirom ~ 1998 - Brian Abraham, John Brock ~ 1999 - Bob and Bruce Brown ~ 2000 - George Cross ~ 2001 - Robert Boyd, Tom Schroeter, Sheila Holmes ~ 2002 - Don Bragg, Marilyn Mullen, Ed Kimura ~ 2003 - Greg Hawkins, Vic Hollister, Art Soregaroli ~ 2004 - John Newell, Wayne Spilsbury, Linda Thorstad ~ 2005 - Moe Young, John Thompson, Jeff Franzen ~ 2006 - Jurgen Lau, Terry Macauley, Lena Brommeland, Dean Toye ~ 2007 - John Murray, Alastair Sinclair, Randy Turner and Randall Yip ~ 2008 - Gerry Delane and Rick Higgs ~ 2009 - Arne Birkeland and Gary Giroux ~ 2010 - Don Coates, Chuck Davis, Chris Graf, Bill Meyer ~ 2011 – Jim Allan, Glen Dickson, Grant Luck, Christine Ogryzlo

GOLD PAN AWARD
For Exceptional Meritorious Service to the Mineral Exploration Community through the Association for Mineral Exploration British Columbia

Athol Sutherland-Brown ~ Bill Sirola ~ Bruce McKnight ~ David Caulfield ~ David Comba ~ Dick Athol ~ Dirk Tempelman-Kluit ~ Don Mustard ~ Donald McInnes ~ Dr. Victor Dolmage ~ Edward H. Caldwell ~ Gardner S. Eldridge ~ Gavin A. Dirom ~ George Smith ~ George Winkler ~ Jack Patterson ~ James A. Pike ~ Jim Fyles ~ Jim Gray ~ John Bonus ~ John Murray ~ Harry V. Warren ~ J.M. Turnbull ~ Ralph MacDonald ~ Randy Turner ~ Rick Higgs ~ Robin Woods ~ Rod MacRae ~ Ron W. Stewart ~ Ross M. Deakin ~ Sanford Woodside ~ Shari Gardiner ~ Spud Huestis ~ Thomas Elliott ~ Tom J. McQuillan ~ Walter B. Boucher ~ William St. Dunn ~William V. Smitheringale ~ Ed Kimura

DAVID BARR AWARD
Excellence in Leadership and Innovation in Mineral Exploration Health and Safety

2005 – David Barr ~ 2006 – Imperial Metals Corporation ~ 2007 – Ian Paterson ~ 2008 – Bill Mercer ~ 2009 – Doug Flynn ~ 2010 – Harvey Tremblay ~ 2011 – Michael Gunning

AD INDEX

Exploring the Possibilities for 100 Years

The members of the Association for Mineral Exploration British Columbia have been exploring the possibilities that exist in B.C. for 100 years. At Teck, we're proud to share in that long history.

Congratulations to AME BC for a century of fostering the growth of mineral exploration and development in British Columbia and beyond. Let's continue to explore what's possible.

Teck