

**AFTERLIFE OF A MINE:
THE TANGLED LEGACIES OF THE BRITANNIA MINE**

by

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Abstract

What happens to mining towns and their environments after they close? This question draws attention to both the social and cultural afterlives of mined landscapes, as well as the environmental legacies that follow mine closures. In this thesis, I explore these issues through a case study of the former copper mining town of Britannia Beach, BC. Located 30km north of Vancouver, on the eastern shore of Howe Sound, copper mining began at Britannia Beach with the opening of the Britannia mine in 1905. Production continued for the next 70 years, and at its peak, the Britannia mine was widely considered to be the largest copper producer in the British Commonwealth. Following its closure in 1974, the mine was redeveloped as a museum and heritage site, celebrating the history of mining at the Britannia and in BC. However, the site's mining past continued to define and shape Britannia's afterlife in other less celebratory ways. In the years after the mine closed, Britannia became mired in controversy over its longstanding pollution problems in the form of acid mine drainage. In examining the afterlife of this formerly mined site, I trace out the history of both of these legacies: cultural and environmental. I detail the redevelopment of the old mine as a museum and heritage site, and trace out ways in which the state and the mine's various owners negotiated and developed remediation projects in order to address Britannia's environmental issues. I focus on the tensions, conflicts and controversies that emerged between these cultural and environmental legacies -- between the desire to preserve and commemorate Britannia's mining past and the need to remediate the mine. In tracing out the interplay between these dynamic and entangled legacies, I explore the ways in which different narratives of place, the past and the future were articulated through processes of commemoration and remediation.

Preface

This thesis is original, unpublished, independent work by the author, James Rhatigan.

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List of Abbreviations

AMD	Acid Mine Drainage
ARD	Acid Rock Drainage
BBCC	Britannia Beach Centennial Committee
BBHS	Britannia Beach Historical Society
BBMM	Britannia Beach Mining Museum
BC	British Columbia
BCM	British Columbia Ministry of Mines
BCMM	British Columbia Museum of Mining
BCE	British Columbia Ministry of Environment
BM&S	Britannia Mining and Smelting Co.
CBE	Copper Beach Estates
CEC	Commission for Environmental Cooperation
CSR	Contaminated Sites Regulations
DFO	Department of Fisheries and Oceans
ESCA	Environmental Systems Community Association
FCB	Fraser Basin Council
HCB	Heritage Conservation
HSD	High Density Sludge
HSRT	Howe Sound Round Table
MLA	Member of the Legislative Assembly
PCB	Pollution Control Branch

PRP	Potentially Responsible Party
SLDF	Sierra League Defence Fund
SPEC	Society for Pollution and Environmental Control
TAC	Technical Advisory Committee
TIDSA	Travel Industry Development Subsidiary Agreement
WMB	Waste Management Branch

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For Grandma and Granddad

Chapter 1: Introduction

*“Mining founded the majority of our cities, built many of our churches, schools and homes, established our families and brought the happiness and contentment, wealth and prosperity which is British Columbia.”*¹

Thus responded Dale L. Pitt, manager of the Premier Gold Mining Company, to the question “what has mining done for British Columbia?” at a 1932 meeting of the Canadian Institute of Mining and Metallurgy in Vancouver. Pitt’s impassioned response to the question perhaps indicates a then dominant view of the central role that mining played in the resettlement and development of modern BC. Indeed, mining has loomed large in the history of the province. From the heady days of the Fraser and Cariboo gold rushes in the 1850s and 1860s, to the development of hardrock mining in the Kootenay region in the late 19th and early 20th centuries, to massive open pit mines of the postwar period, mining has been one of the most important factors shaping social, economic, geographic, and political change within the province.

Mining development is, however, “cyclonic” in nature.² It is defined by boom and bust cycles as mineral resources dwindle and mining towns fall victim to the fluctuations of international markets. The economic gains and security associated with mining and mineral resource development — the ‘happiness and contentment, wealth and prosperity’ that Pitt speaks

¹ Dale L. Pitt, “What Has Mining Done for British Columbia,” *The Washington Historical Quarterly* 23, 2 (April 1932):109.

² Arn Keeling, “‘Born in an Atomic Test Tube’: Landscapes of Cyclonic Development at Uranium City, Saskatchewan,” *The Canadian Geographer* 54, 2 (2010):228-252; The metaphor for the cyclonic nature of mining development is drawn from Harold Innis work on the economic development of stable-dependent frontier nations. See Harold A. Innis, *Staples, Markets, and Cultural Change: Selected Essays*, D. Drache ed. (Montreal and Kingston: McGill-Queen’s University Press, 1995).

of— are inherently geographically uneven; and they are at best, for many mining towns and centres of resource development, precarious, unstable, and fleeting. BC is dotted with the remains of closed and abandoned mines and mining towns. Indeed as Trevor Barnes notes the “whirlwind ferocity of capitalist accumulation at resource sites” is matched by the “equally ferocious decline and destruction that follows.”³

This thesis is concerned with what follows. It asks, what is left when the cyclonic winds of mining development have died down? It asks, what happens to mining towns and their environments when the mine closes? I address these questions through a study of the afterlife of the Britannia Mine, located on Howe Sound just 40 km north of Vancouver, BC along the Sea-to-Sky Highway and within the traditional and unceded territory of the Squamish Nation. Britannia Mine’s afterlife is defined by multiple, entangled legacies of its mining past. In particular, it brings into sharp focus both the cultural and environmental legacies of mining. The Britannia mine operated from 1905 to 1974. Following its closure, the mine was redeveloped as a museum and heritage site dedicated to the celebration of the history of mining in BC. However, the history of mining continued to define and shape Britannia’s afterlife in other less celebratory ways. In the years after the mine closed, Britannia became mired in controversy over its longstanding pollution issues and the efforts to remediate them. In examining the afterlife of this formerly mined site, this thesis explores the ways that different narratives of place, nature, the past and the future have been articulated through environmental remediation projects and through the mining museum at Britannia. It focuses on the tensions,

³ Trevor Barnes, "Borderline Communities: Canadian Single Industry Towns, Staples, and Harold Innis," in H. Van Houtum, O. Kramsch, and W. Zierhofer eds. *Bordering Space* (Burlington, VT: Ashgate Publishing): 112; See also Trevor Barnes, Roger Hayter, and Elizabeth Hay, “Stormy Weather: Cyclones, Harold Innis, and Port Alberni, BC,” *Environment and Planning A* 33 (2001): 2127- 2147.

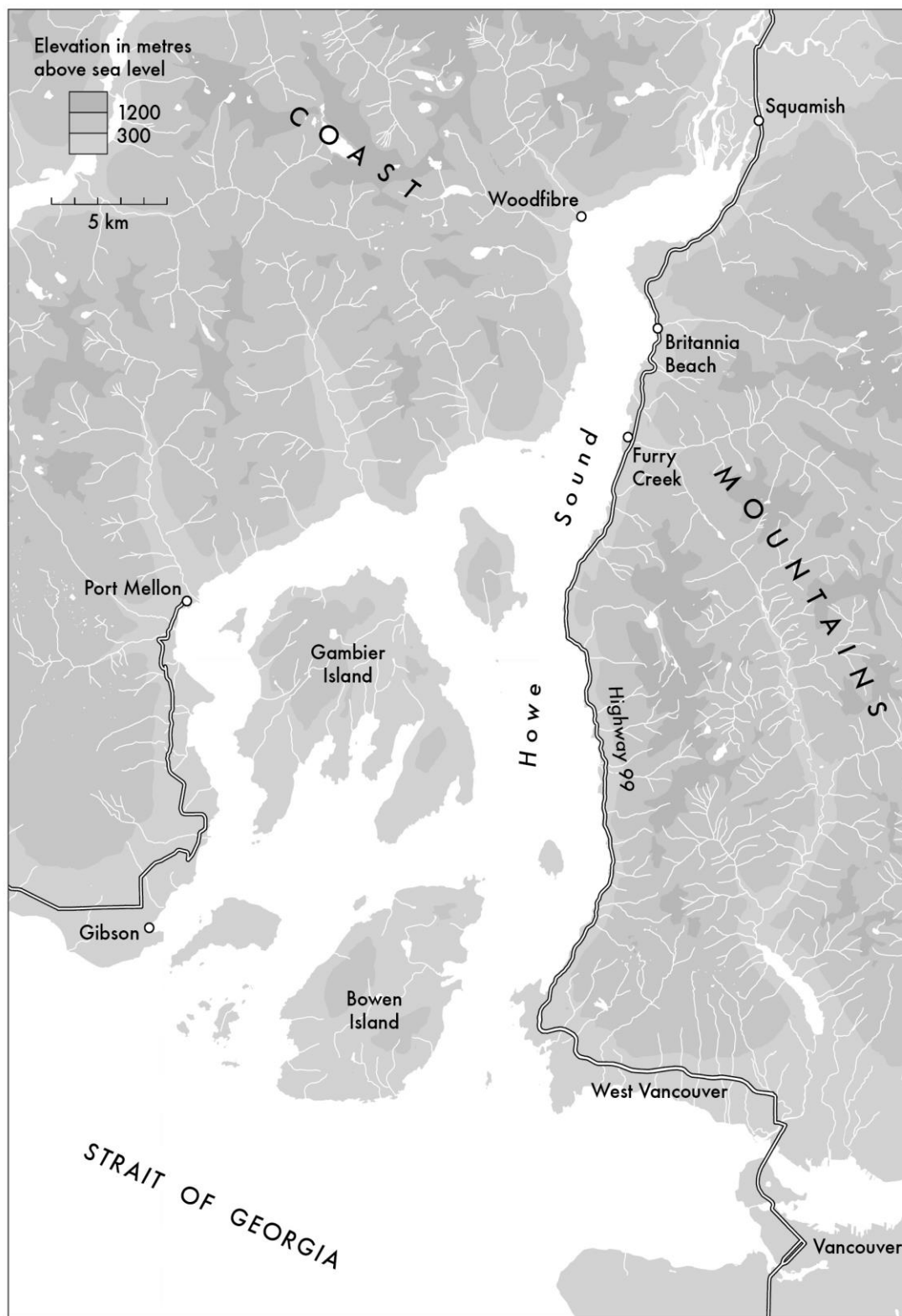


Figure 1.1: Map of Howe Sound. Map by Eric Leinberger.

conflicts and controversies that emerged between these cultural and environmental legacies — between the desire for the preservation of a mining past and a need to address the environmental issues at the mine, tracing out the interplay of these two dynamic and entangled legacies.

Britannia: A Brief History

First prospected in 1888 by Dr. A.A. Forbes, a medical doctor from Scotland, the Britannia mine centered on a massive low grade ore deposit, considered particularly important given its proximity to Vancouver. By the early 1900s, local boosters and “mining men” heralded Britannia as “the mine to make Vancouver.”⁴ However if Britannia was the mine to make Vancouver, Vancouver was not the city to make Britannia. Indeed, American money bankrolled the early development of the mine and established the Britannia Mining and Smelting Co. Ltd (BM&S). Such an arrangement was not uncommon in British Columbia during this period. American and British capital were essential, even necessary ingredients in many of the province’s earliest hardrock developments.⁵ At Britannia, these “paths out of town”— many of which led east to New York and south to Washington State and Montana— would remain important routes for capital and ownership over the course of the mine’s operating life and after.⁶

The BM&S shipped its first load of ore from Britannia in 1904. Between 1904 and 1916 the mine grew from a 200 tonne per day operation to a 2000 tonne per day operation as the company constructed its first mill and explored deeper into Britannia mountain. By the early

⁴ “A Mine to Make Vancouver,” *The Province*, 4 September, 1900, 2.

⁵ Paul Phillips, “The Underground Economy: The mining frontier to 1920,” in Rennie Warburton and David Coburn, eds., *Workers, Capital, and the State in British Columbia* (Vancouver: University of British Columbia Press, 1998); Jeremy Mouat, *Roaring Days: Rossland’s Mines and the History of British Columbia* (Vancouver: University of British Columbia Press, 1995); Cole Harris, *The Resettlement of British Columbia: Essays on Colonialism and Geographical Change* (Vancouver: University of British Columbia Press, 1998).

⁶ William Cronon, “Kennecott Journey: The Paths Out of Town,” in W. Cronon, G. Miles, J. Gitlin eds. *Under an Open Sky: Rethinking America’s Western Past* (New York: W.W. Norton, 1992): 28–51.

1920s the mine's productive activities were centred on two company towns. The first, at Britannia Beach, was occupied by mill workers and administrative officers and their families. The second was located six miles inland and 2,000 feet above sea level at Mount Sheer. The Townsite as it was called, housed the mine labourers and engineers and their families. As Katherine Rollwagen has shown, both towns, collectively known as Britannia, were tightly controlled and administered by the company.⁷ This aspect of Britannia's development was facilitated by its relative isolation: until the late 1950s, when the Sea-to-Sky highway was constructed, the town was only accessible by boat. Such isolation made Britannia the "quintessential company town."⁸ Union activity, alcohol consumption, and sexual promiscuity were not tolerated. Married workers and their families were housed in company housing and could shop at the company run store, while single workers, mostly transitory men, lived in communal bunkhouses and ate company rations. The company organised recreational amenities and facilities, the school, post office, and town doctor. While over the course of the mine's operating life the company's paternalistic attitudes would relax somewhat, they maintained a considerable level of control over general life in both Britannia Beach and Mount Sheer.

In 1923 the BM&S constructed a new state-of-the-art eight storey gravity-fed Concentrator/Mill at Britannia Beach. Six years later the mine reached its peak level of production, employing over 1,000 workers and processing over 45 million pounds of copper.⁹ It

⁷ Katherine Rollwagen, "'That Touch of Paternalism': Cultivating Community in the Company Town of Britannia Beach, 1920-58," *BC Studies* 151 (Autumn 2006): 39-67.

⁸ *Ibid.*, 39

⁹ Logan Hovis "Technological Change and Mining Labour: Copper Mining and Milling Operations at the Britannia Mines, BC, 1898-1937" (MA thesis, University of British Columbia, 1982).

was, at this time, the largest copper producer in Canada and possibly the British Empire.¹⁰ While the levels of production achieved in the late 1920s would never be matched again, Britannia continued to be an important source of copper in BC until at least the 1960s. Unlike many other mines in BC, Britannia weathered and survived the Great Depression to see a surge in demand as the mine became a strategic source of copper for the Allied war efforts during World War Two. This demand was largely sustained through the 1950s by the Korean War.

By late 1950s global demand for copper fell sharply and Britannia faced its first closure crisis. In 1958, responding to a fifty percent drop in the global price of copper and despite receiving both provincial and federal government assistance, the BM&S shut down operations. Although at the time many considered this to be the end of the Britannia mine, the shutdown lasted just ten months. However, when the mine reopened in 1959, following a rise in the price of copper, it did so on a greatly reduced scale. Indeed, during the temporary closure in 1958 the BM&S had abandoned the Mount Sheer townsite,¹¹ and the 300 strong workforce returning to Britannia Beach in 1959 was less than half that which left in 1958.

In 1963 the BM&S sold the mine to the Anaconda Mining Co., of Anaconda and Butte, Montana fame. Anaconda had purchased the old mine with the intention of using it as a base for further exploration and development in Northern BC.¹² Observers hoped the arrival of the American mining giant would bring about an end to the “boom-bust” cycles that had characterised the mine’s recent history; however, within a year of taking ownership of the mine,

¹⁰ There is some debate over whether the mine was indeed the largest copper producer in the British Empire. A matter that I shall discuss further in chapter 2.

¹¹ During this period of closure BM&S rented out the residences at Britannia Beach as holiday homes, foreshadowing many of the future development plans prepared for the mine once it closed in 1974.

¹² “Anaconda to Explore B.C.,” *The Province*, 15 January, 1963, 12.

Anaconda shut it down. Anaconda had closed the mine in response to a workers' strike over annual contract negotiations.¹³ The strike and closure lasted until March 1965 when provincial authorities stepped in. Anaconda continued to operate Britannia through the 1960s and early 1970s. However, the mine's future was at best tenuous. Britannia was by now, as historian C.J. Taylor put it, "basking in a faded glory."¹⁴ In fall 1974, Anaconda—citing dwindling ore reserves, rising costs of production, and a stagnating world copper market—closed the mine for good.

The closure came as a devastating shock for the miners and their families. In the summer before the mine closed the representatives of United Steelworkers of America, the workers' new union, had been negotiating the terms of a new contract. Single men packed their bags and left almost immediately. For families living in Britannia Beach things were a little more difficult. Anaconda had agreed to let the workers and their families remain in their homes until early spring 1975, so that their children could finish the school year. In the meantime, workers would have to look for employment elsewhere. Many men looked to the Northair mine just North of Squamish scheduled to open in late 1974, others to Squamish and Vancouver. Ultimately, all would have to leave.¹⁵

¹³ Dave Robertson, "Anaconda Deal Could End Britannia Boom-Bust Era," *Vancouver Sun*, 12 January, 1963, 44; "Ask Bennett to Intervene in Strike," *Daily Times*, 17 October, 1964, 3; "Death of a Community," *Vancouver Sun*, 28 October, 1964, 4; See also Katherine Rollwagen, "When Ghosts Hovered: Community and Crisis in a Company Town, Britannia Beach, British Columbia, 1957-1965," *Urban History Review* 35,2 (Spring 2007): 25-36. The ban on union activity that had been imposed on the Britannia workers had been lifted by the BM&S in 1946, and in 1964 the workers were represented by the local 663 of the International Union of Mine, Mill, and Smelter Workers.

¹⁴ University of British Columbia Special Collections and University Archives (hereafter UBCSCUA), Charles W. Humphries Fonds, box 3, file 9: C.J. Taylor, "Britannia Mines and Concentrator," in *Historic Sites and Monuments Board of Canada Agenda Paper, Ottawa, Ontario November 20-22, 1987*: 298.

¹⁵ Ron Rose, "There's a Feeling of Doom at Britannia," *Vancouver Sun*, 8 October, 1974, 37; "Britannia Beach Turns Into a Pumpkin Tonight," *Vancouver Sun*, 1 November 1974, 35; "Gov't Urged to Block Closure," *Vancouver Sun*, 22 October 1974, 41; "Hope Dim, Says Lauk," *Vancouver Sun*, 25 October, 1974, 7; "Job Hunt Launched in Mining Shutdown," *The Province*, 10 October, 1974, 23.

At the time Britannia shut down in 1974 it was the longest operating mine in the province. Over the seventy-odd years that the mine had been open approximately 60,000 people called Britannia home, and over 160 km of underground workings and five open pits had been developed to extract over 50 million tonnes of ore.¹⁶ Britannia is, thus, perhaps not a typical case of cyclonic development. Its longevity and experience near to a major urban centre are indeed exceptional. Yet many of the general issues associated with its closure and afterlife are not. Like many former single resource towns, Britannia struggled to stay alive and establish a new economic base post-closure. This was achieved through the reinvention of the old mine as a museum and heritage site. Like many other mining towns all over Canada, however, Britannia was also dogged by a legacy of persistent environmental contamination and pollution.

Britannia's Tangled Legacies

Several aspects of the Britannia mine's afterlife fit into what environmental historians Arn Keeling and John Sandlos have described as the "resilience school" of mining history.¹⁷ This research has sought to temper notions of the "mining imaginary"—the common historical narrative that frames closed and abandoned mines as "post-industrial scars,"¹⁸ the inevitable legacies of the environmental destruction, economic decline, and community stagnation that persist after mines shut down. Indeed, for historical geographer Richard Francaviglia, landscapes shaped and defined by past mining activity, "hard places" as he describes them, represent some of the most unique and important, if least understood, cultural landscapes in the North

¹⁶ Marilyn Mullan and Dianne Newell, "Britannia Mines (1888-1988): Mill now a National Historical Site," *CIM Bulletin* 81, 912 (April 1988):74-78.

¹⁷ Arn Keeling and John Sandlos, "Introduction: The Complex Legacy of Mining in Northern Canada," in Arn Keeling and John Sandlos eds. *Mining Communities in Northern Canada: History, Politics, and Memory* (Edmonton: University of Calgary, 2015): 9.

¹⁸ Anna Storm, *Post-Industrial Landscape Scars* (New York: Palgrave Macmillan, 2014).

America.¹⁹ Following Francaviglia's lead, recent research has shown that abandoned mines, imbued with stories, memories, and personal histories, continue to represent significant cultural resources and artefacts for mining communities.²⁰ While the meaning and significance of mined landscapes are often highly contested even greatly degraded landscapes and environments can act as cultural reference points and be a source of pride for former miners and residents of mining towns.²¹ Commemoration of a mining past can thus be an important act of "emotional regeneration" for a community facing social exclusion and unemployment in the wake of sudden mine closures.²² Indeed within this literature the material remains of mining— the buildings, head-frames, pits, waste piles, tools and equipment— are seen to provide resources around which place-identity and cultural heritage is constructed and maintained. Tara Cater and Arn Keeling, working with former miners at the closed nickel mine at Rankin Inlet, Nunavut, demonstrate how mining's material remains are "continually folded into present practices and identities," anchoring personalised histories of place.²³

¹⁹ Richard Francaviglia, *Hard Places: Reading the Landscapes of America's Historic Mining Districts* (Iowa City: University of Iowa Press, 1991).

²⁰ Bode Morin, *The Legacy of American Copper Smelting: Industrial Heritage versus Environmental Policy* (Knoxville: University of Tennessee Press, 2013); David Robertson, "Identity and the Post-Mining Landscape: Observations from the American Mining Town," in Oliver Hamm and Christiana Gräwe eds. *Bergbau Folge Landschaft/Post Mining Landscapes* (Berlin: Jovis-Verlag, 2010): 144-149; Janelle Skeard, "Come Hell or High Water: Identity and Resilience in a Mining Town," *London Journal of Canadian Studies* 30 (2015): 90-109; Ben Marsh, "Continuity and Decline in the Anthracite Towns of Pennsylvania," *Annals of the Association of American Geographers* 77, 3 (1987): 337-52.

²¹ Peter Goin and Elizabeth Raymond, "Living in Anthracite: Mining Landscape and Sense of Place in Wyoming Valley, Pennsylvania," *The Public Historian* 23,2 (2001): 29-45.

²² Carol Stephenson and David Wray, "Emotional Regeneration Through Community Action in Post-Industrial Mining Communities: The New Herrington Miners' Banner Partnership," *Capital and Class* 29,3 (2005): 175-199.

²³ Tara Cater and Arn Keeling, "'That's Where Our Future Came From': Mining, Landscape, and Memory in Rankin Inlet, Nunavut," *Etudes/Inuit/Studies* 37, 2 (2013): 61; see also Robert Summerby-Murray, "Interpreting Personalised Industrial Heritage in the Mining Towns of Cumberland County, Nova Scotia: Landscape Examples from Springhill and River Hebert," *Urban History Review* 35,2 (2007): 51-59. And even in cases where mines have closed and company towns have been abandoned, former mining communities have maintained attachments to place and kept regional and personal histories of mining alive through the production of virtual archives and repositories of memories, photographs and home videos, and historical documents. See Jonathan Peyton's discussion of the

However, beyond providing cultural touchstones for local and regional histories and identities, the material and cultural legacies of abandoned mines can serve as important heritage resources through which to build and develop local post-mining economies.²⁴ Revalued as heritage and transformed into historic sites or recreational developments, mining resources and landscapes are entered into new circuits of capital accumulation and are made productive again. Such “heritigisation” can repeat past patterns of economic development, leaving former mining towns once again dependent on a single resource — their past. However, heritage tourism is often regarded as the most important economic alternative to mining.²⁵ So common is such development within former mining communities that mining historian Bode Morin includes a “heritage development” stage in his simplified model of “mining district development.”²⁶

This was the case at Britannia. Following the closure of the mine in 1974, the Britannia Beach Historical Society (BBHS) made a concerted effort to develop a successful heritage economy at the old mine. In 1975, just a year after the mine closed, the society opened the British Columbia Museum of Mining at the old mine, and in 1987, Britannia’s Concentrator/Mill was designated a National Historic Site. The Britannia mine’s afterlife has been largely shaped by these efforts to celebrate its cultural legacy, and by processes of commemoration and

history and afterlife of the Cassiar asbestos mine in Northern BC in Jonathan Peyton "Unbuilt Environments: Unrealised Geographies of Energy and Enterprise in the Stikine." (PhD diss., University of British Columbia, Vancouver, 2011): Chapter 5.

²⁴ Caroline Digby, “101 Things to do With a Hole in the Ground,” in Oliver Hamm and Christiana Gräwe eds. *Bergbau Folge Landschaft/Post Mining Landscapes* (Berlin: Jovis-Verlag, 2010): 14-25; Jorn Harfst, "Utilising the Past-Valorizing Post-Mining Potential in Central Europe," *The Extractive Industries and Society* 2 (2015):217-224; Frederick L. Quivik, “The Historical Significance of Tailings and Slag: Industrial Waste as Cultural Resource,” *IA: The Journal of the Society for Industrial Archeology*, 33,2 (2007):35-54; Jeremy Bryson, "Creating the Old and New Wests: Landscape and Identity in Anaconda and Hamilton, Montana," (M.S. thesis, Montana State University, Bozeman, Montana, 2006). Anna Storm and Krister Olsson, "The Pit: Landscape Scars as Potential Cultural Tools," *International Journal of Heritage Studies* 19, 7 (2013): 692-708.

²⁵ Pamela, Stern and Peter V. Hall, "Historical Limits: Narrowing Possibilities in "Ontario's Most Historic Town," *The Canadian Geographer* 54, 2 (2010): 209-227.

²⁶ Morin, *The Legacy of American Copper Smelting*, Appendix: “Mining District Heritage Model”

preservation of the material remains of its mining past. As one historian has noted, in the years after the mine's closure, Britannia has been able to "live off the memories of its mining days."²⁷ The story here is one of hope and renewal. Although a turbulent process, mine closure does not have to be solely characterised by decline and destruction. Mine closure does not have to mean the death of a town and community and the end of their history. Mining towns can and do live on through the celebration and commemoration of heritage tourism.

And yet, as Cater and Keeling argue, and as the case of Britannia shows, the cultural legacies and meanings attached to formerly mined landscapes are often "complicated by the ongoing presence of industrial hazards."²⁸ Indeed despite stories of hope, renewal and resilience that characterise the afterlives of some former mining towns, Keeling and Sandlos remind us "that stories of environmental degradation and community collapse still have a place in the mining history literature."²⁹ Persistent environmental degradation and ruination, and associated dispossession and dislocation, are quite often the most enduring legacies of large-scale mineral extraction. Indeed, mining is perhaps the quintessential "dirty industry"; waste products generated through mining and smelting activity can contain highly toxic heavy metals, such as arsenic or mercury, or radioactive materials. These contaminants last for hundreds if not

²⁷ Rollwagen, "When Ghosts Hovered," 33.

²⁸ Cater and Keeling, "'That's Where Our Future Came From,'" 70.

²⁹ John Sandlos and Arn Keeling. "Claiming the New North: Mining and Colonialism at the Pine Point Mine, Northwest Territories, Canada," *Environment and History* 18,1(February 2012): 8. For literature on the widespread and long-lasting environmental impacts of mining see Timothy le Cain, *Mass Destruction: The Mine and Giant Mines that Wired America and Scarred the Planet* (Piscataway, NJ: Rutgers University Press, 2009); Timothy le Cain, "When Everybody Wins Does the Environment Lose? The Environmental Techno-Fix in Twentieth Century American Mining," in L. Rosner (ed.), *The Technological Fix*, (New York: Routledge Press, 2004); Liza Piper, "Subterranean Bodies: Mining the Large Lakes of North-West Canada, 1921- 1960," *Environmental History* 13 (2007):155-186; Morin, *The Legacy of American Copper Smelting*; Gavin Brechin, *Imperial San Francisco: Urban Power, Earthly Ruin* (Berkeley, Los Angeles: University of California Press, 2002); Patricia Limerick et al. *Cleaning Up Abandoned Hardrock Mines in the West- Prospecting for a Better Future* (Centre of the American West: Boulder, Colorado, 2005).

thousands of years, and can devastate the health of local ecologies and communities.³⁰ Drawing on the work of literary critic Rob Nixon, geographer Erin Eldridge characterises the toxic legacies and environmental degradation associated with past mining and processing activities as a form of “slow violence,”³¹ a violence that Nixon notes “occurs gradually and out of sight, a violence of delayed destruction that is dispersed across time and space, an attritional violence that is typically not viewed as violence at all....a violence that is neither spectacular nor instantaneous, but rather incremental and accretive, its calamitous repercussions playing out across a range of temporal scales.”³² Echoing this sentiment, Sandlos and Keeling evocatively describe abandoned mines as “zombies— sites that continue to exert some form of malevolent effect during their afterlife.”³³

The Britannia mine is such a zombie. Its afterlife has been characterised by the slow and unspectacular violence of persistent pollution problems of acid mine drainage (AMD). The most enduring legacy of mining at Britannia, AMD results from the oxidation of Sulphur-bearing compounds within ore and waste mine materials when they are exposed to air and water during and after extraction. This process produces a sulphuric acid which then dissolves metals in the surrounding rock. The resulting effluent is highly acidic and laden with heavy metals. While the

³⁰ Arn Keeling, “Mining Waste” in C. Zimring ed. *SAGE Encyclopedia of Consumption and Waste* (Sage Publications: Thousand Oaks, California: 2012): 553-556.

³¹ Erin Eldridge, “The Continuum of Coal Violence and Post-Coal Possibilities in the Appalachian South,” *Journal of Political Ecology* 22 (2015): 279-298.

³² Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Harvard: Harvard University Press, 2010): 2. For more examples of the application of Nixon’s concept of Slow Violence to the study of closed and abandoned mines see John Sandlos and Arn Keeling, “Toxic Legacies, Slow Violence, and Environmental Injustice at Giant Mine Northwest Territories,” *The Northern Review* 42 (2016): 7-21; Stuart Kirsch, *Mining Capitalism: The Relationship Between Corporations and their Critics*, (Oakland, California: University of California Press, 2014). Traci Brynne Voyles, *Wastelanding: Legacies of Uranium Mining in Navajo Country* (Minneapolis: University of Minnesota Press, 2015).

³³ John Sandlos and Arn Keeling, “Zombie Mines and the (Over)Burden of History,” *Solutions Journal* 4, 3 (2013): 72. Brynne Voyles also uses the metaphor of a “zombie” to describe the undead and malevolent qualities of old and abandoned mines in her study of uranium mining in the Navajo territories, see Brynne Voyles, *Wastelanding*.

effects of AMD on humans are generally considered to be negligible, it can and does have devastating effects on the receiving environment. At Britannia rainwater and snowmelt were funnelled through the open pits and through the 160 km of mine workings until they eventually entered Britannia Creek and Howe Sound. AMD is a particularly tenacious and persistent source of pollution: once its generation has started it can be impossible to stop. At Britannia, it is generally considered that AMD will be produced, and thus require treatment in perpetuity. With an average of 450 kg/day of copper and zinc flowing from the mine into the Howe Sound, by the mid-1990s Environment Canada considered Britannia to be “the single worst point source of metal pollution in North America.”³⁴ In 2001, after nearly thirty years of scientific study and negotiations between the province and the mine’s owners, past and present, remediation of Britannia’s significant AMD problems finally got underway.

Defined by both processes of commemoration and remediation, Britannia mine’s afterlife weaves together multiple, tangled legacies of the site’s mining past. It occupies an uneasy position between narratives of post-closure economic redevelopment and resilience and declensionist stories of environmental degradation. It is complex, contradictory, and dynamic. It forces us to contend with both the symbolic and material aspects of the cultural and environmental legacies of mining. I consider both these symbolic and material aspects in this thesis. Following Ann Stoler, I focus, “not on inert remains but on their vital reconfiguration...the material and social afterlife of structures, sensibilities, and things.”³⁵ I give an account of the ways in which both the cultural and environmental legacies of mining at

³⁴ Margaret Munro, “Potent Bacteria Utilised to Harvest Metal While Cleaning Water From Britannia Mine,” *Vancouver Sun*, 13 June, 1986: A1.

³⁵ Ann Laura Stoler, “Imperial Debris: Reflections on Ruins and Ruination,” *Cultural Anthropology* 23, 2 (2008): 194.

Britannia were remade, revalued, and responded to through the processes of commemoration and remediation.

Unfortunately, it was beyond the scope of this thesis project to engage in a meaningful way with the perspectives and experiences of the Squamish Nation, within whose traditional, unceded, and ancestral territories the Britannia mine is located. While at times I have been able to learn of Squamish positions on different developments through textual sources, I was not able to consult documents held by Squamish Nation or to speak to officials or elders knowledgeable of Britannia's history. Although several attempts were made in writing and in person to engage Squamish Nation authorities about the project, I was unable to establish meaningful contacts. While I will persist in these efforts, for the present thesis, I must draw conclusions based on the evidence available. Drawing on archival material found in the provincial archives of British Columbia, UBC Special Collections and Archives, the City of Vancouver Archives and the Britannia Museum Archives, as well as government reports and newspaper accounts, I focus my attention on the actions of BBHS, provincial and federal governments, and the corporate owners of the mine.

In the following chapter, I examine the cultural legacies of the Britannia Mine. I focus on a small group of people, the Britannia Beach Historical Society, and their efforts to use the Britannia mine to commemorate and celebrate the history of mining at Britannia Beach and in BC more generally. Having created a small mining museum at the Britannia mine during BC's 1971 Centennial Celebration, the BBHS, most of whom were involved either directly or indirectly in the mining industry, soon sought to reinvent Britannia Beach as a historic site and establish a heritage economy in the old mining town. In 1987, they successfully secured National Historic Site status for the old mine complex. I trace out the processes through which this

occurred and examine the historical society's plans, many unrealised, to develop a heritage economy at the Britannia mine. While this chapter is a history of the development of a museum and a national historic site, it is also a study of the production of spatial histories, offering a critical reading of the ways in which the BBHS sought to use the material remains of mining at Britannia Beach to commemorate and narrate a celebratory spatial history of mining in BC. I will show, ultimately, that these spatial histories and acts of commemoration were disrupted by the environmental legacies of mining at Britannia—AMD.

In Chapter 3 I turn my attention to these environmental legacies. Focusing on Britannia's long-standing problem of AMD I detail the ways in which the state and mine's various owners negotiated and developed remediation projects in order to address it. Such remediation projects were mired by debates and controversies over responsibility— who should pay?—and the nature of the remediation itself—how clean is clean enough? In tracing out the history of these political controversies I detail the ways in which the state, corporate interests, environmentalists and local residents conceptualised and responded to Britannia's toxic legacies and how these shifted over time. In doing so, I highlight the value of an historical approach to the study of mine remediation, and show how efforts to remediate the mine were shaped by competing visions of the site's future development.

In the fourth and final chapter I discuss how the cultural and environmental legacies of the Britannia mine were brought together through processes of remediation and renewal, and offer concluding thoughts.

Chapter 2: Telling Spatial Histories—The Cultural Legacies of the Britannia Mine

This chapter focuses on the cultural afterlife of the Britannia mine. Unlike other historic mining towns in BC, which were abandoned and left to ruin post-closure, the Britannia mine survived through its reinvention as a museum and heritage site. This chapter tells the story of that reinvention. Focusing on the work of a small but determined group of people, the Britannia Beach Historical Society (BBHS), it details the transformation of the Britannia mine from an industrial landscape into “Canada’s largest museum artefact” and a national historic site. Starting from an initial idea to establish a history museum as an educational resource and promotional tool for the mining industry in BC at Britannia, visions of large scale heritage developments and history-flavoured theme parks soon began to materialise in the plans of the BBHS.

The first section of this chapter details the origins of the mining museum and its role as an educational resource for the mining industry. The next two sections focus on the BBHS’s plans to expand the museum’s modest operations and redevelop the Britannia mine as a major heritage site. The first of these plans involved an attempt to transform the former industrial site into large scale history-flavoured “Theme Park.” While ultimately unrealized, the development of the theme park plans precipitated a significant shift in the BBHS’s relationship to the Britannia mine and their understanding of the site’s heritage value. The second involved a smaller, yet no less ambitious, plan to see Britannia Beach designated a national historic site.

Historical memorialisation and commemoration at Britannia were means of economic redevelopment. Tracing out the Britannia mine’s cultural afterlife, this chapter explores the ways

in which the elements of the site’s mining past— its buildings, machines, underground tunnels and stories— were revalued as heritage resources and put to work to keep Britannia from ‘ghost town’ status. Following historical geographer Mathew Dyce, I argue that such acts of public commemoration and memorialisation were *spatial histories*³⁶—they told stories about the past geographically, presenting them and anchoring them within place. Thus while this chapter is an historical account of the development of a museum and “heritage economy”, it is also an investigation into the ways in which such acts of commemoration and memorialisation produce historical and geographical knowledge. Thus in examining the development of the mining museum, the unrealised theme park plans, and the designation of the old mine as a national historic site, I show how the material remains of Britannia’s mining past were used to produce and ground in place historical narratives of the development of BC as well as regional and national identities. I argue that through these different forms of memorialisation and commemoration the BBHS attempted to establish and stabilise historical meaning and significance at Britannia Beach, both as a means of promoting and celebrating the mining industry as well as means of establishing a heritage economy at the mine. By the 1990s, however, the historical narratives and spatial histories that the BBHS sought to inscribe at Britannia Beach began to be challenged— somewhat ironically by the mine itself.

The Museum’s Origins

The British Columbia Museum of Mining (BCMM) officially opened to the public in early 1975, just a few short months after Anaconda ceased operations at the mine. Yet, planning for the museum began several years earlier in 1970 as a project for the Centennial ’71

³⁶ Matthew Dyce. "A Spatial History of Canada: Archives, Knowledge, and Geography" (PhD diss., University of British Columbia, Vancouver, 2014).

Celebrations. Indeed, it could be argued that the mining museum at Britannia Beach is as much a legacy of the Social Credit government's centennial celebrations as the site's industrial past.³⁷ In 1958, 1966/67, and 1971 the provincial Social Credit government had organised three year-long and province-wide centennial celebrations to commemorate the creation of BC as a crown colony (1858), the unification of Vancouver Island and the BC mainland and the Confederation of Canada (1866/67), and BC's entrance into Confederation (1871). Such celebrations and historical commemorations are important political tools for the construction of regional, provincial, and national identities³⁸, and as historian Mia Reimer has shown, BC's three centennial celebrations were an important part of a broader process of "province building" underway in the province at the time.³⁹

BC was, during this period, in the throes of a post-war boom as W.A.C. Bennett and the Social Credit government sought to connect and "modernise" a diffuse provincial population through unprecedented programs of road building, hydro-electric dam construction and heavily capitalised resource developments.⁴⁰ Drawing on frontier myths and pioneer origin stories, the Social Credit government sought to use the centennial celebrations to articulate a master narrative of British Columbia history in line with these developments. As Bennett himself noted in the introduction of the province's Official Centennial Record, published in the lead up to the

³⁷ Robert D. Watt. "The Role and Impact of History Museums in the Preservation and Interpretation of British Columbia History," *Museum Round Up* 91 (1984): 4-13.

³⁸ E. J. Hobsbawm and T. O. Ranger eds. *The Invention of Tradition* (Cambridge: Cambridge University Press, 1983); H. V. Nelles. *The Art of Nation-Building: Pageantry and Spectacle at Quebec's Tercentenary* (Toronto: University of Toronto Press, 1999); Matthew, Dyce. "'The Gateway to the Last Great West': Spatial Histories of the Athabasca Landing Trail," *Canadian Historical Review* 94,2 (2013): 177-206.

³⁹ Mia Reimer "BC at its Most Sparkling, Colourful Best": Post War Post-war Province Building through Centennial Celebrations" (PhD. diss., University of Victoria, 2008.)

⁴⁰ David J. Mitchell, *W.A.C. Bennett and the Rise of British Columbia* (Vancouver: Douglas and McIntyre, 1983); Patricia E. Roy & John Herd Thompson, *British Columbia: Land of Promises* (Don Mills: Oxford University Press, 2005); Tina Loo, "People in the Way: Modernity, Environment, and Society on the Arrow Lakes," *BC Studies* 142/143 (Summer/Autumn 2004): 162.

1958 celebrations, the story of British Columbia is "the story of development, of the building of a... homogenous province; of a God-fearing pioneer people dedicated to progress, strengthened by their contest with a great land at first reluctant to yield its full resources."⁴¹ Such historical narratives and imaginaries were not only intended to invoke a common provincial origin myth and identity, but also sought to frame the contemporaneous rounds of megaprojects and resource development as the natural, inevitable continuation of historical patterns of development: BC's was a story of material progress.⁴²

The three centennial years were celebrated in local communities all over the province as the provincial centennial committee distributed funds to local historical societies and centennial committees for the erection of commemorative plaques, the publication of local histories, and the construction of centennial parks, libraries, and local history museums.⁴³ While Britannia had largely missed out on the 1958 centennial celebrations, due to the mine's closure, in 1967 the Britannia Beach's Centennial Committee marked the year by commissioning historian Bruce Ramsay to write a history of the town: *Britannia: The Story of a Mine*.⁴⁴ In 1971 Britannia Beach decided that its contribution to celebrations would be a local mining history museum.

The mining museum was the brainchild of Barney Greenlee, then the general manager of the Britannia mines. The original plan was to construct a small museum to display historical mining artefacts from Britannia Beach. In early 1970 Anaconda donated to the Britannia Beach

⁴¹ British Columbia Centennial Committee, *British Columbia Official Centennial Record: 1858-1958: A Century of Progress* (Vancouver: Evergreen Press, 1958): 9.

⁴² Reimer, "BC at Its Most Sparkling."

⁴³ Kathleen Trayner, "Historical Origins and Collective Memory in British Columbia's Community-Based Museums, 1925-1975," (MA Thesis, University of Victoria, 2003); Reimer, *BC at its Most Sparkling*; Watt, "The Role and Impact of Museums". The provincial centennial committee distributed money to communities on a grant scheme— for every dollar a community/town raised the province promised to match it with \$1 dollar per capital.

⁴⁴ Bruce Ramsay, *Britannia: The Story of a Mine* (Britannia: Britannia Beach Community Club, 1967).

centennial committee a service tunnel, driven behind the concentrator building in the 1920s, to be used as the main display space as well as land for the construction of a dedicated museum building. The tunnel would host an exhibition of old equipment and mining machines, while the new museum building, to be built “in the style of an old ‘General Mine Office’” at the southern portal to the tunnel, would house the more perishable records of the town’s mining history— old photographs, company records, maps, and books.⁴⁵ With provincial government approval for the museum secured and a centennial grant in hand, the construction of the museum began in early 1971 and continued over the course of the summer.

By August 1971, the Britannia Beach’s centennial committee had evolved into a fully-fledged historical society, the Britannia Beach Historical Society (BBHS). The BBHS primary consisted of individuals involved directly with the mining industry in British Columbia. Led by Jack Greenwood, a local businessman involved in the mining industry through his company, Nelson Machinery Ltd., they established the BBHS to pick up the work of the centennial committee at the end of the centennial year. Having secured from Anaconda a 21-year lease for the tunnel and museum building, the BBHS began developing plans for the future expansion of the museum.⁴⁶ Unlike many other museums established in BC during the centennial celebrations, which depicted highly local histories,⁴⁷ Greenwood and the BBHS wanted to develop a museum

⁴⁵ British Columbia Archives and Record Services (hereafter BCARS) GR-1450 - Centennial '71 Committee records, box 31, file 1, J.O. Wolf, Vice Chairman, Britannia Beach Centennial Committee to L.J. Wallace, General Chairman, British Columbia Centennial '71 Committee, November 18, 1970. Details of the early plans stages for the centennial museum can also be found in the Britannia Beach newsletters in UBC ARSC J.C.S Moore Collection, box 1, file 12 and 14.

⁴⁶ Britannia Mine Museum Archives (hereafter BMMA), Museum Documentation and Events: 1967-1974, Britannia Beach Historical Society- Minutes of the Inaugural Meeting of the Britannia Beach Historical Society August 24, 1971; Marilyn Mullan, “Britannia- The Story of a British Columbia Mine: From Mining Resource to Heritage Resource,” *Pioneering Geology in the Canadian Cordillera*, Open File 1992-19 BCMEMPR:41-52.

⁴⁷ See for example Trayner, “Historical Origins and Collective Memory”; Watt, “The Role and Impact of Museums”.

that would offer a provincial perspective. Their aim was the “establishment of a permanent record of the history of BC mining and a portrayal of today’s mining industry in British Columbia...which will promote public interest in mining and present a *true* picture of what the industry has done and is doing.”⁴⁸ Greenwood, and the other directors of the BBHS, saw in such a museum a possible a solution to some of the difficulties facing the mining industry in the 1970s in BC.⁴⁹

Indeed, for Greenwood and the other members of BBHS, the museum was an explicit response to the growing criticism being levelled at the industry by environmentalists and recreationalists in the province. BC was at the time at the forefront of developments in environmental politics and the environmental movement in North America. The 1960s and 70s had seen the development of a range of politically engaged and environmentally conscious organisations in the province. Inspired by Rachel Carson’s *Silent Spring* and the emerging field of ecology, as well as the northward drift of American counter culture, groups such as the Society for Pollution and Environmental Control (SPEC), Greenpeace and the BC Sierra Club organised around issues of environmental health and the effects of air and water pollution. Mining pollution was a catalyst for much of this political mobilisation. High profile and controversial mine developments in the 1950s and 1960s— such as the Buttle Lake mine in Strathcona Park and the Utah Island Copper mine— had put pollution from mining and mill activity firmly in the public eye. In the late 1960s and early 1970s environmental organisations

⁴⁸ BMMA, Documentation of Events and Activities: 1967-1974, Jack B. Greenwood letter, “For There is Good to Hear and Fine Things to be Seen,” no date. (emphasis added),

⁴⁹ “BC Museum of Mining: Great Hopes for its Role as a Common Educational Ground,” *Western Miner*, April 1975; Fergus Corbie “A Living Museum Carries the Mining Message for the Future,” *Western Miner*, April 1982.

such as SPEC and the BC Wildlife Federation were particularly outspoken critics of the mining industry's environmental record.⁵⁰

The BBHS's goal was thus to find "a palatable way of creating a public understanding of mining...of telling the public about mining's contribution to the economy...[and] of explaining that the mining industry is a good citizen particularly in those areas of major public concern i.e. working conditions, pollution and land disfigurement."⁵¹ Coming from a museum such a message would, the BBHS suggested to potential sponsors, "have greater credibility than would be possible...by industry acting on its own behalf."⁵² The mining industry and government funding agencies agreed and between 1972 and 1975 the BBHS collected just over \$200,000 in government grants and industry donations for the development of the museum.⁵³

Construction of the new museum began in earnest in 1972. First, the abandoned service tunnel that ran beneath the Concentrator building was cleared of debris and fully rehabilitated. Tracks were laid for touring trains and examples of tunnel timbering and roof supports installed. The BBHS also upgraded the "Museum Building" and constructed a new "History Trail", a 600 foot pathway that wound its way from the museum car park on the southern portion of the site to the opening of the underground tunnel. At the same time, members of the BBHS and museum staff travelled to old coal mines on Vancouver Island and abandoned mining operations in the

⁵⁰ Arn Keeling, "The Effluent Society: Water Pollution and Environmental Politics in British Columbia, 1889-1980" (PhD diss., University of British Columbia, 2004.):particularly chapters 3 and 5.

⁵¹ City of Vancouver Archives (hereafter CVA) Pamphlet Collection: PAM 1974-207.

⁵² Ibid. The BCMM was not without historical precedence in this regard. Museums had for a long time been used to showcase geological knowledge and promote the interests of the mining industry in BC. As Braun has shown, in the late 19th and early 20th centuries the museums of the Geological Survey as Canada— as centres for the collection, rationalisation, and dissemination of geological knowledge— played an important role in the articulation and legitimisation of geological knowledge and resource development in BC and Canada— what Braun has termed the "geologizing" of the state: Bruce Braun, "Producing Vertical Territory:Geology and Governmentality in Late Victorian Canada," *Ecumene* 7,1 (2000):7-46

⁵³ CVA Pamphlet Collection: PAM 1975-136, BCMM, "Fact sheet and guide to the displays on History Trail" May 13, 1975.

Kootenay District collecting an assortment of old mining artefacts and memorabilia. Donations of old equipment, machines, ore samples, photographs, maps as well as some movie props were also gifted to the museum by mining companies and private individuals, including former residents of Britannia Beach. By the autumn of 1974—as the news of the Anaconda mine’s impending closure broke—the museum began offering its first guided tours to local high school students.⁵⁴ The following May, just six months after the mine ceased operations, the British Columbia Museum of Mining officially opened to the public.

Like the archive, the modern museum is an important centre for the collection, rationalisation, specialisation, and dissemination of historical knowledge.⁵⁵ Through the collection and curation of objects and artefacts—labelling, classifying, and displaying them—museums impose order on and arrange knowledge about the past and the world beyond their doors. At the BCMM the aim was to tell “a comprehensive story of mining in British Columbia through displays of machinery and artefacts related to historical, current and future activities of mining.”⁵⁶ Having gathered together mining artefacts and objects from disparate times and places in BC, and presented them in a neat, chronological order, the museum sought to construct a spatial history of BC as “mining country”—a region wholly defined by its mineral resources and their exploitation.⁵⁷

⁵⁴ BBHS, *British Columbia Museum of Mining: Submission to the Economic Development Committee of the British Columbia Cabinet, March 1979* (BBHS: Britannia Beach, 1979), 3.

⁵⁵ Tony Bennett, *The Birth of the Museum: History, Theory, Politics* (London: Routledge, 1995); see also Dyce, “A Spatial History of Canada,” Chapter 5.

⁵⁶ BMMA Museum Documentation and Events 1975-1980 Map and Brochure, No Date; Museum Documentation and Events: 1967-1975, “Minutes from the Annual General Meeting of the Britannia Beach Historical Society” November 29, 1972.

⁵⁷ Matthew Himley, “Mining history: Mobilising the Past in Struggles over Mineral Extraction in Peru,” *Geographical Review* 104, 2 (2014): 174-191; Gavin Bridge, “Resource Triumphalism: Postindustrial Narratives of Primary Commodity Production” *Environment and Planning A* 33 (2001): 2149-2173.

As museum historian Mary Tivy has noted, “the metanarrative for museums with chronological galleries is the creation of civilisation out of wilderness.”⁵⁸ The BCMM followed such a narrative. In line with the boosterism that characterised the centennial celebrations from which it originated, the BCMM drew on and reaffirmed well worn “frontier” histories of the BC.⁵⁹ Coupling geological displays with exhibits and live demonstrations of mining techniques and technology, past and present, the BCMM narrated a spatial history of BC as a succession of advancements in mining technology and techniques. It presented mining as the catalyst for the political and economic development of British Columbia, the agent of progress and an essential aspect of the province’s heritage and identity.

As historian Tony Bennett has argued, one of the most powerful functions of the historical museum, as a narrative technology, is to “convert this temporalisation into a spatial arrangement” through the design and layout of its exhibitions and galleries.⁶⁰ At the BCMM, the “History Trail”, in particular, gave physical form to this narrative of “progress.” Making their way along the “History Trail,” visitors were directed through displays of graphics, artefacts and models depicting “key event[s] in BC’s colourful mining history.”⁶¹ Beginning with a display of the use of copper in “an Indian Village on the Pacific Northwest Coast,” visitors moved onto scenes showing the Hudson Bay Company’s ‘discovery’ of lead and showing mining techniques from early coal developments on Vancouver Island in the early 1800s. Following this, visitors would pass several scenes depicting the trials and tribulations of the 1858 Fraser Gold Rush and

⁵⁸Mary Tivy, “Museums, Visitors and the Reconstruction of the Past in Ontario,” *Material History Review* 37 (Spring 1993): 9.

⁵⁹ Elizabeth Furniss, “Pioneers, Progress and the Myth of the Frontier: The Landscape of Public History in Rural British Columbia,” *BC Studies* 115/116 (Autumn/Winter 1997/98): 7-44.

⁶⁰ Tony Bennett, *The Birth of the Museum*, 185.

⁶¹ Detailed descriptions of the “History Trail”, including scene descriptions, can be found in CVA Pamphlet Collection: PAM 1975-136, BCMM, “Fact sheet and guide to the displays on History Trail” May 13, 1975.

the tools and techniques of placer mining during heyday of the Cariboo rush. Within the final two scenes the “History Trail” made the jump to the late 19th century and the development of large scale industrial underground and lode mining in the Kootenay District.⁶² Beyond the “History Trail”, in the main Museum Building, visitors could explore a series of small galleries, which again organised chronologically displayed historic photographs, tools, books, geological maps and ore sample as well as exhibits of modern mining techniques and technologies.⁶³ While outside, visitors could take in the industrial engineering of the now idle Concentrator/Mill, pan for gold in a reconstructed gold sluice— “with guaranteed results”—or examine examples of some of the most modern and up-to-date mining machinery in use BC.⁶⁴ The juxtaposition of 19th and 20th century mining technology and techniques provided a tangible visualisation of history of progress.

However, more than presenting visitors with passive displays of mining artefacts and representations of BC’s mining past, the museum offered visitors a chance to experience this past in action. The disused tunnels and old mill of the Britannia mine provided the stage on which visitors could experience a day in the life of a miner ‘as it really was’. As Jim Haight, the museum manager, noted, the BCMM’s aim was to “summarise the history of mining in the province from the 1830s, using *actual equipment and artefacts* in an *actual setting* both underground and on the surface. Most equipment will be operational. The drills will be drilling and the fans fanning.”⁶⁵

⁶² Ibid.

⁶³ Ibid; Irene Tomaszewski, “Down the Britannia Pit”, *Vancouver Sun*, 28 August, 1981:B1; Jake Van Der Kamp “BC Looks at Mine History,” *Vancouver Sun*, 14 May, 1974, 49.

⁶⁴ Tomaszewski, “Down the Britannia Pit.”

⁶⁵ Jake Van Der Kamp “BC Looks at Mine History,” *Vancouver Sun*, 14 May, 1974, 49. emphasis added.

On reaching the end of the “History Trail” visitors would don hard hats, board a small train car, and be carried through the underground tunnel that ran behind the concentrator building. The tunnel— the museum’s central attraction— was outfitted with displays of mining equipment and technology from the 1920s to the 1950s, depicting the evolution of underground mining techniques. Museum staff were on hand to provide live demonstrations of various “drilling, blasting, [and] mucking methods”⁶⁶ involved in the extraction of ore. The tunnel itself was dark and damp and the drills, mucking machines and simulated explosions were loud. The whole tour was designed “to give visitors a real underground experience...an opportunity to see authentic mine operated by experienced miners.”⁶⁷ Visitors were promised an authentic *experience* of mining, with all the sounds, smells, and noises of underground extractive operations. They were promised the real thing.

As Donna Haraway has observed, realism is a powerful epistemological and aesthetic tool. Its power comes from its “magical effect: what is so painfully constructed appears effortlessly spontaneously, found, discovered, simply there if one will look. Realism does not appear to be a point of view.”⁶⁸ The BBHS’s claims to realism and authenticity were thus a central aspect of the educational role that they sought to define for BCMM. Grounded in both *place*— the museum was located on what had until very recently been a working mine— and the provenance or “aura”⁶⁹ of their *artefacts*— the old equipment and mining memorabilia on display at the museum had been sourced directly from both closed and operating mines around

⁶⁶ Ibid.

⁶⁷ “Plaque Honours Britannia Residents and Anaconda,” *Squamish Times*, 20 May, 1976. 1-3

⁶⁸ Donna Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991): 38.

⁶⁹ In his famous essay “The Work of Art in the Age of Reproducibility” cultural theorist Walter Benjamin described original works of art or original artefacts as possessing an aura. This he defined as “the essence of all that is transmissible from its beginning, ranging from its substantive duration to its testimony to the history which it has experienced.” Walter Benjamin, *Illuminations*, (Glasgow: Fontana, 1973): 214.

the province— these claims framed the museum as an objective, impartial, and apolitical educational institution. Placing *real* mining equipment and artefacts in a *real* mining setting offered a means to strip away the authorial intent that lay behind the collecting, planning, organising and arrangement of the displays and exhibitions. The BCMM thus sought to define itself as an educational institution in which the historical testimony embodied within its artefacts and setting could be encountered and experienced, unfettered by the hand of the museum curator.

By 1978, the BCMM had matured into a popular tourist destination and venue for school tours and trips, with an annual visitation of over 40,000.⁷⁰ It was around this time that the celebration and commemoration of British Columbia's mining past at Britannia took on a decidedly new dimension. While throughout the initial development of the BCMM the Britannia mine site had been used and maintained as a stage upon which the museum could narrate the history of mining in the province, in the late 1970s the site itself came to be reimagined as a historical artefact in its own right. This new appreciation of the old mine precipitated new plans for the future of the site. Indeed, by 1978, what had initially been conceived as an educational and public relations endeavour had matured into concrete plans for the redevelopment of Britannia as a major heritage tourist site.

“Britannia Park”

In December 1978, Jack Greenwood wrote to the provincial Department of Culture and Heritage with an opportunity. The BCMM had, Greenwood informed the HCB, since its inception in 1971 been managed and developed within the confines imposed by an operating and fully functioning mine. Anaconda's closure of the mine in 1974 had changed all this and had, as

⁷⁰BCARS GR-1548 BC Heritage Conservation Branch box 20, file 5 Jack Greenwood to G.L. Giles, Associate Deputy Minister, Department of Culture and Heritage, December 14, 1978. See attached “Fact Sheet”.

Greenwood put it, “created...a unique opportunity to preserve for Canada, and all Canadians, those elements of our mining heritage which still remain at Britannia Beach.” “Too often” Greenwood continued, “over the years past, a closure would mean simply the end of an era, period. Lost forever.” While the closure of the mine at Britannia signified an end of an era in Canadian mining history, could it not, Greenwood asked, “precede the beginning of a new era, one which commemorates our mining history.” Insisting, “that virtually every structure, tunnel, and shaft at the site possesses some degree of historic significance” Greenwood called on the province to invest in BBHS’s efforts to inaugurate this new era.⁷¹

The BBHS’s vision for this new era was an ambitious one, involving a massive expansion of the BCMM operations. Working from an initial idea to refashion Britannia Beach as a “Historic Mine Village”⁷² the BBHS soon produced plans to develop the former mine into “a large scale amusement-recreation-education centre...with the overriding goal of providing an exciting way of communicating the heritage and essence of BC’s second largest industry.”⁷³ These plans reflected a fundamental revaluing of the former mine site. Now closed, abandoned, and disused the Britannia mine was recast as an historical artefact. The material remains of mining at Britannia— the buildings, tunnels, tools, and equipment— were framed as a means

⁷¹ BCARS GR-1548 BC Heritage Conservation Branch box 20, file 5 Jack Greenwood to G.L. Giles, Associate Deputy Minister, Department of Culture and Heritage, December 14, 1978.

⁷² BCARS GR-1548 BC Heritage Conservation Branch box 20, file 5 Jack B. Greenwood, to Russell Irvine, Heritage Conservation Branch, December 20, 1978. ⁷² The BBHS’s original plans had been to emulate the reconstructed historic mining village at Barkerville. Barkerville was, as Robert D. Watt of the Vancouver Museum has noted, “the earliest example of a modern historical site” in BC Founded in 1862, the historic mining town had been at the epicentre of the Cariboo Gold Rush in BC Largely abandoned by late 19th century, the federal National Historic Board had designated the town a National Historic Site as early as 1924. Three decades later, in the lead up the 1958 Centennial Celebrations, the old gold mining town became the focus of a massive, provincially led redevelopment project. The provincial Centennial Committee restored and renovated the remaining historic building, constructed replica structures, and outfitted the town with picnic and camping facilities, and by the 1970s Barkerville had become a model of heritage development in the province, one that the BBHS hoped to reproduce. See Robert D. Watt “The Role and Impact of History Museums”.

⁷³ Britannia Beach Historical Society “British Columbia Museum of Mining: Submission to the Economic Development Committee of the British Columbia Cabinet” March 1979: 6.

through which the Britannia Mine's and BC's industrial heritage could be maintained, preserved, and communicated. But more than this, re-conceived as "heritage" the old mine complex came to be *revalued* as a resource to be utilised for the economic redevelopment of Britannia Beach. The "heritagisation" of the site would thus not only preserve Britannia Beach's industrial heritage but would provide the town a chance to reinvent itself as a major heritage tourist destination.⁷⁴

In early 1979 research consultants with the provincial Heritage Conservation Branch, responding to Greenwood's call for assistance, visited the old mine site and the museum to ascertain what if any role the Branch would play in the BBHS's future plans. The nature of such involvement would be determined by the HCB's assessment of "whether or not the Britannia Beach Mine site could be considered to be of provincial significance."⁷⁵ Reporting on the matter in March 1979, researchers for the HCB noted that the scale and longevity of the mine operations certainly made Britannia stand out within the province. The quantity of ore extracted over the mine's operating life as well as the fact that during the early 1930s it was the largest copper producer in the British Empire, indicated that Britannia once played a major role in the regional and provincial economy; and having endured several major mine disasters and weathered the boom and bust cycles of the global copper markets for seventy years Britannia's history was a rich one. The HCB's assessment of the Britannia mine's historical significance was based as much on this history as on the material traces of the past that could be said to represent it. And while the HCB noted that Britannia's history was rich, the Branch ultimately concluded that,

⁷⁴ Brian Graham, Gerard Ashworth and John E. Tunbridge, "The Uses and Abuses of Heritage," in: G. Corsane ed., *Heritage, Museums, and Galleries: An Introductory Reader* (New York: Routledge, 2005): 26-37.

⁷⁵ BCARS GR-1548 BC Heritage Conservation Branch box 20, file 5 Jack B. Greenwood, to Russell Irvine, Heritage Conservation Branch, December 20, 1978 ; see also George H. Kerr, Consulting Services Division, Heritage Conservation Branch, to Jack B. Greenwood December 1, 1978.

“there are no individual buildings which can be said to represent this history, or which in any other way appear to merit designation...this is but one of several mines sites in the province which have a rich and varied history.”⁷⁶

The HCB was more enthusiastic about BBHS’s work at the museum. However, while the HCB saw that there may be “an opportunity...to assist them [the BBHS] in their efforts to inform British Columbians of the role that mining has played in the development of this province,”⁷⁷ without an official provincial designation of historical significance such assistance would be limited to technical advice and “moral support.”⁷⁸ At the same time, the HCB also raised concern over possible return of heavy industry to Britannia Beach. In 1976 Anaconda had entered negotiations with the province to develop a coal port at Britannia Beach. The port— which the provincial government had originally proposed for Squamish— would ship out coal from northeastern BC. While the plan was eventually abandoned in the face of sustained opposition from recreational groups and local environmental groups,⁷⁹ the HCB was worried that “such proposals may be resurrected.”⁸⁰

Such concerns reflected one of the main challenges facing BBHS at the time: Britannia was still owned by Anaconda; it was still a “company town”. In 1971, Greenwood had secured from Anaconda a twenty-year lease on the Museum building site, the underground tunnel, and “History Trail.” In early 1976 Anaconda, having stripped the building of most of its internal

⁷⁶ BCARS GR-1548 BC Heritage Conservation Branch box 20, file 5, Bill Huot, Memo: BC Museum of Mining Proposal, March 5, 1979.

⁷⁷ Ibid.

⁷⁸ BCARS MS-2009 Margaret Ormsby Files, box 1, file 7 Historical Committee: minutes, Minutes for Meeting March 9th 1979.

⁷⁹ “Britannia Use as Coal Port Under Study,” *Vancouver Sun*, 21 May, 1976, 32; David Baines, “Howe Sound Controversy Starts Up Again,” *Vancouver Sun*, 26 April, 1976, 8.

⁸⁰ BCARS GR-1548 BC Heritage Conservation Branch box 20, file 5, Bill Huot, Memo: BC Museum of Mining Proposal, March 5, 1979.

parts and heavy machinery, had also granted the BCMM use of the Concentrator/Mill for tours. With these agreements due to run out in the early 1990s, the BBHS's plans for the long term development of the museum would amount to little more than sketches, studies, and reports unless long term tenure of the museum site and mine complex could be secured.

In early January 1979 Greenwood and Art Alexander, director with the Granby Mining Company and fellow director of the BBHS, sat down with representatives of Anaconda to try to hash out a new deal.⁸¹ After closing the mine in 1974, Anaconda had continued to manage the residential properties at Britannia Beach, renting out the former workers' residences to new tenants, most of whom worked in Vancouver. By 1979, however, the American owned company was keen to relieve itself of its assets at Britannia Beach. Greenwood and Alexander moved quickly to secure control of the site, and by March the two men had formed and incorporated Copper Beach Estates Limited (CBE), with the expressed goal of purchasing Anaconda's interests at and around Britannia Beach. In October 1979 CBE took over ownership of Anaconda's mineral claims, foreshore and surface rights at Britannia Beach for \$5 million. As a condition of the sale CBE had also agreed to gift to the BBHS 40 acres of flat land at Britannia Beach for future development of the museum. At the same time Greenwood and other members of CBE had agreed to step down from the BBHS board to avoid any potential conflicts of interest.

CBE had financed their purchase of Britannia Beach by immediately selling off 200 acres of waterfront property, located just to the south of the museum, to DOME petroleum Ltd., an oil

⁸¹ BMMA Greenwood Collection [hereafter Greenwood Collection], Box 13: Studies/Proposals Mining Box 1 of 1. F.A. Alexander, "History of Copper Beach Estates from Inception to Present," 20 October, 1983.

and gas company based in Calgary with plans to construct an LNG plant on the site.⁸² While in the early 1980s CBE explored similar schemes to bring industry back to the town,⁸³ the museum remained central to the company's immediate plans for the future re-development of the old mine complex. In June 1979 the provincial Travel Industry Development Subsidiary Agreement (TIDSA) had awarded CBE and BBHS a grant of \$58,000 for a study "to define the various development alternatives available to the Museum with the economic parameters of its existing and potential tourist and educational markets."⁸⁴ The previous March, Greenwood had presented plans for the construction of a major mining-oriented "Theme Park" at Britannia Beach to the TIDSA, and in reality this was the only "development alternative" pursued.⁸⁵

The *Britannia Beach Theme Park Study* was carried out by HA Simons Ltd and published in January 1980.⁸⁶ The report envisioned a radical transformation of Britannia Beach, proposing the construction of a sprawling, \$25.4 million theme park. Britannia Park, as the development was preliminarily called, would combine "elements of an exciting amusement park and elements

⁸² Der Hoi-Yin, "Dome Buying Land at Britannia Beach," *Vancouver Sun*, 7 November, 1979, A1; Moira Farrow, "Howe Sound Port Idea Comes Under Fire," *Vancouver Sun*, 8 November, 1979, A3; "Ministers Mum on Port at Britannia," *Vancouver Sun*, 9 November, 1979, 10. Like the deep sea port development proposed by the province in 1976, Dome's plans to develop an LNG facility at Britannia Beach was also abandoned due to significant opposition from local environmental groups and residents, see "Dome Sells Britannia: Housing and Factories," *Vancouver Sun*, 21 September, 1984, D6.

⁸³ Over the course of the early 1980s CBE invited various resource companies as well as the province to consider Britannia Beach as a potential site for the development of a deep sea coal port and natural gas storage facilities. The company also initiated a series of mineral surveys to assess the possibility of reworking some sections of the old mine on a much reduced scale. See Greenwood Collection, Box 13: Studies/Proposals Mining Box 1 of 1. F.A. Alexander, *History of Copper Beach Estates from Inception to Present*, October 20th 1983; Copper Beach Estates Ltd, *Presentation to Ministry of Industry and Small business Development: Proposed Site for Deep Sea Port and Industrial Park, Howe Sound*, BC May, 1980.

⁸⁴ Britannia Beach Historical Society, *British Columbia Museum of Mining: Submission to the Economic Development Committee of the British Columbia Cabinet*, (Britannia Beach, BBHS, March 1979): 6.

⁸⁵ Ibid.; BCARS GR-1548 BC Heritage Conservation Branch box 20, file 5, "British Columbia Museum of Mining— Theme Park: Terms of Reference"; Greenwood Collection, Box 13 Studies/Proposals Mining Box 1 of 1, F.A. Alexander, "History of Copper Beach Estates from Inception to Present," October 20, 1983.

⁸⁶ H.A. Simons Ltd. *Britannia Beach Theme Park Study*. (Ottawa: Government of Canada, 1980).

of an *authentic* and remote BC resource community of the 1920s era.”⁸⁷ According HA Simons Ltd and the BBHS, Britannia Beach would be the perfect site for such a major development. Being located in the Pacific Northwest— a region that HA Simons Ltd. argued was woefully “under serviced” by a major Theme Park of any stripe— and on the eastern shore of Howe Sound— an area that was then experiencing a significant economic shift toward tourist and recreation development— the development would be poised to become a major tourist attraction and economic.

Indeed, recalling the boosterism that had characterised the promotion of the Britannia mine in the early 20th century, the theme park was presented not only as a solid plan for the economic redevelopment of Britannia Beach, but as a potential massive boon for the wider regional economy. HA Simons Ltd. estimated that the park would generate 868 direct and indirect jobs and net all levels of government a combined total of \$12.7 million in tax in its first ten years. It would restore to Britannia Beach a level of economic vibrancy that the town hadn’t experienced since the 1920s. As the Theme Park study projected, through the park “A boom town relives, and a strong Lower Mainland feature pulses, once again producing substantial revenue for the area in which it operates.”⁸⁸

But more than an economic transformation, the theme park would also reimagine the mining landscape at Britannia Beach. From the industrial detritus of the Britannia mine would emerge Britannia Park— a landscape of recreation, leisure and consumption. Designed to weave seamlessly together education and entertainment, the theme park would divide the old mine site into discreet “realms”, the combined effect of which would be to recreate the “excitement and

⁸⁷ Ibid., Chapter 1 page 2.

⁸⁸ Ibid., Chapter 7 page 25.

activity of a Twenties boom town operating at full blast.” On arriving at the Britannia Park visitors would enter “Village Realm.” Running through the centre of the park, this single avenue would be lined with 1920s-themed shops and restaurants and populated by staff dressed in period costume and heavy-set Clydesdales towing carriages. It would evoke the hustle and bustle of a “Main Street”. Beyond this, in the grand saloon and game rooms of the “Miner’s Junction”, visitors would be able to experience the “bawdy part of town, somewhat unkempt and sinful, but within the decent limits acceptable to family groups”. While in the “School Realm” half hour long lessons on Canadian and British Columbian history would be punctuated by opportunities to explore mining themed games and playrooms. An outdoor amphitheatre at the northern extreme of the park would host live shows and demonstrations celebrating BC’s major resource sectors: forestry, mining, and fishing.

The BCMM’s existing operations— the museum, tunnel tour, and concentrator building— would remain at the heart of the park in the “Mining Realm.” Here “the serious tools of mining” would be put on display.⁸⁹ The “History Trail” would be removed, while the Museum Building and Underground Tour would be expanded to accommodate the expected increase in traffic. However, the Concentrator or Mill complex would undergo the greatest transformation. The entire structure would be stripped, cleaned and rehabilitated. Staircases, lined with information panels explaining the mining and concentrating processes, would be installed to connect the industrial building’s eight floors and allow visitors to explore the entire structure. From the top of the Mill visitors would be able to board the theme park’s two thrill rides. The first, the “Thrill in the Mill” would speed visitors through the workings of the Mill,

⁸⁹ Ibid., Chapter 7, page 14.

while the second, the “Flume Ride”—which was touted as the park’s potential trademark feature— would wind its way through the Mill and the mine’s underground tunnels. Other than these changes, the report noted, “the structure would be left as is and exploited for its haunting atmosphere.”⁹⁰

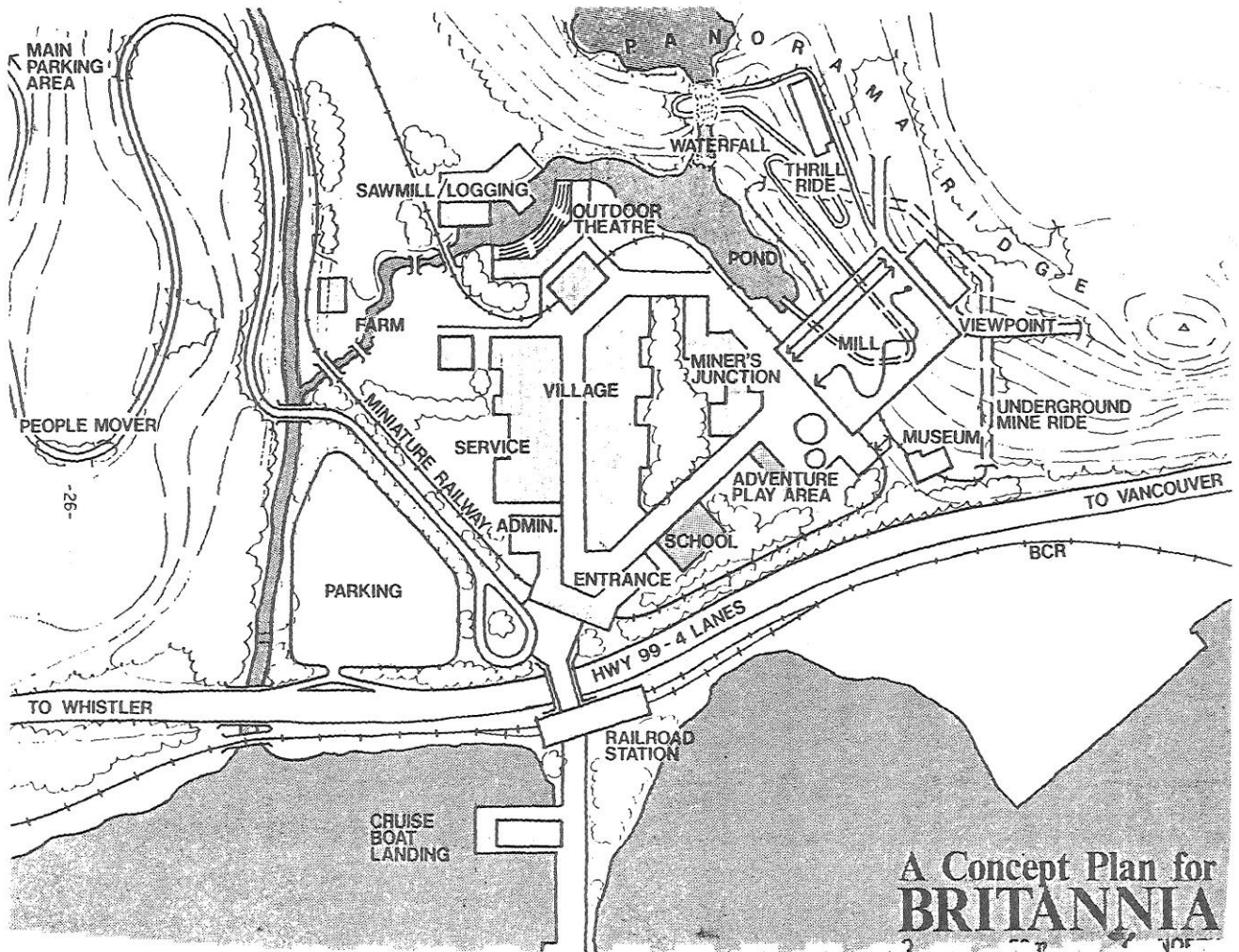


Figure 2.1: A Concept Plan for Britannia. Source: H.A. Simons Ltd. *Britannia Beach Theme Park Study*. (Ottawa: Government of Canada, 1980): chapter 7 page 26.

⁹⁰ Ibid.

Britannia Park's recreated 1920s mining village would have very little in common with the original Britannia Beach.⁹¹ Like the BCMM, the Park would draw on pioneer histories of the West, presenting visitors with a mythic, idealised, and sanitised version of the past. A heavy emphasis would be placed on the virtues of self-sufficiency, trade, industry as well, of course, as the importance of mining as a driver of development in BC. However, Britannia Park would also be able to represent, recreate and extend these historical narratives in ways the museum never could. As a "living history museum" the Britannia Park would animate and perform this history. Telescoping time and space, it would bring this mythic past into the present, enabling visitors to be immersed in it. In doing so, the theme park would blur the lines between then and now and create an experience within which "modernist distinctions of real and imaginary are no longer valid."⁹² It would, as Umberto Eco observed of Disneyland's Main Street and Frontierland, present visitors with "a fantasy...absolutely realised."⁹³

And yet, while the BBHS and their consultants noted that Britannia Park's treatment of the old mining town's history would be somewhat "kinder and softer around the edges than an actual mine town vista would have been" they insisted that the Park depiction of the past would be "nonetheless *real*."⁹⁴ Like the BCMM, Britannia Park would anchor these claims to realism in "auratic modality" of place—in the memory and historical testimony embodied in the material

⁹¹ There was for instance no bustling "Main Street" lined with shops and trade stands in 1920s Britannia Beach or Mount Sheer. Residents of the both Mount Sheer and Britannia Beach would purchase their goods at the company owned "Store". And there was of course no "bawdy part of town" in the tightly controlled and family oriented company town. Public drunkenness was indeed a fireable offence, see Katherine Rollwagen, "That Touch of Paternalism," 44.

⁹² Chris Rojek, *Ways of Escape: Modern Transformations in Leisure and Travel* (London: Macmillan, 1993):145.

⁹³ Umberto Eco, *Travels in Hyperreality* (San Diego: Harcourt Brace Jovanovich, 1986): 43.

⁹⁴ HA Simons Ltd. *Britannia Beach Theme Park Study* (Ottawa: Government of Canada, 1980): Chapter 7 page 23.

traces of Britannia Beach's mining past.⁹⁵ Indeed, unlike the "absolute fakes" that Umberto Eco encountered in Disneyland's Main Street and Frontierland, Britannia had once been a working mine, and thus as the BBHS and HA Simons Ltd, stressed, Britannia Park would not be "a make-believe, created from scratch Theme Park, but a revival of an earlier time."⁹⁶ It was what historian David Wrobel has described as an "...imaginative efforts to bring place into existence or to hold on to earlier incarnations of places that had since changed."⁹⁷ Whether or not the Park's representation of Britannia's mining past was historically accurate or true didn't matter; whether or not the "Britannia" of Britannia Park was like the "old Britannia" was insignificant. For the BBHS, the Theme Park would make Britannia Beach a "mining town" again. Britannia Park was, in every sense, a "revival." In mobilising Britannia Beach's history of mining as an economic resource, the Park would reinvigorate the town's economy and restore it to its former "boom town" status while preserving and celebrating and reviving the town's important industrial heritage through its vital reconfiguration.

The HCB did not agree. In the summer of 1980 the BBHS had again reached out to the branch for advice and, the society hoped, financial assistance. In response, the HCB informed the historical society that their role in any heritage development would "only relate to the restoration of authentic historical buildings."⁹⁸ And they saw no role for themselves in the development of the Britannia Park. For the HCB, the transformation of the Britannia Beach that would occur should the Theme Park plan be pursued, its "Disneyfication", would destroy all the old mine

⁹⁵ Sharon Macdonald, "A People's Story: Heritage, Identity, and Authenticity" in Gerard Corsane ed. *Heritage, Museums, and Galleries: An Introductory Reader* (New York: Routledge, 2005).

⁹⁶ H.A. Simons Ltd. *Britannia Beach Theme Park Study*: Chapter 7 page 23.

⁹⁷ David M. Wrobel, *Promised Lands: Promotion, Memory, and the Creation of the American West* (Lawrence: University Press of Kansas 2002): 3.

⁹⁸ BCARS GR-1548 BC Heritage Conservation Branch box 20, file 5 Memo Russell J. Irvine Director Heritage Conservation Branch to Ralph Gillett RE: The British Columbia Museum of Mining, November 12 1980.

complex's historical elements and heritage value.⁹⁹ Indeed, alarmed that the "...scheme completely ignores all the old buildings except the mill...and this seems to have the "thrill" ride running through it," the HCB offered to help the BBHS develop alternate plans so that the historic mine buildings still standing could be "retained, restored, and put to an appropriate use."¹⁰⁰

In the end the HCB would have little need for such concern. From the start of the project, the TIDSA, the BBHS's provincial partners for the project, had been adamant that the development would receive no provincial funding; it was to be a private, for profit endeavour. Access to capital was thus to be the main stumbling block. The ambitious scale of the project was beyond the limited resources available to both the BBHS and CBE. The turbulent economic waters that the mining sector found itself in during the early 1980s did not help matters either. The initial sponsorship and donations that the BBHS and CBE had expected from the mining industry to help get the project off the ground never materialised. While over the course of 1980 and 1981 CBE and the BBHS had entered negotiations with potential partners and theme park operators, most of whom were based in the United States, they ultimately failed to attract any major investors. By the summer of 1981 the BBHS and CBE had decided to shelve the plans.¹⁰¹

While the BBHS's initial plans to redevelop Britannia Beach as a major tourist destination and history-flavoured theme park ultimately failed, the society's efforts had two significant effects on the afterlife of the Britannia mine. First, through CBE's purchasing of

⁹⁹ For more on the Disneyfication of mined landscapes see Francaviglia, *Hardplaces*, 198.

¹⁰⁰ BCARS GR-1548 BC Heritage Conservation Branch box 20, file 5 Ralph Gillet, Restoration Service Division to Russell Irvine, Director, Heritage Conservation Branch, May 12, 1981.

¹⁰¹ Greenwood Collection Box 13 Studies/Proposals Mining Box 1 of 1. F.A. Alexander, "History of Copper Beach Estates from Inception to Present," October 20, 1983 and Box 57 Britannia Beach Historical Society/BC Museum of Mining Box 1 of 1, file Dome Lease, BBHS Chairman Report, 1981.

Anaconda's interests at Britannia Beach, the BBHS was able to secure ownership and control of the 40 acres of the old mine complex, including the Concentrator Building, twenty-two other historic buildings, the underground tunnel and all mine records. Second, CBEL's and the BBHS's plans to develop Britannia Beach as a major tourist site were partially premised on the society's belief that the Britannia Mine represented of a significant part of the province's industrial heritage. This recasting of the Britannia Mine as a heritage site of historical importance in its own right precipitated a significant change in the BCMM's curatorial activity and a renewed focus on the technological, economic and social history of Britannia Beach itself. While the museum would maintain their original exhibitions and demonstrations, over the course of the 1980s the BCMM increasingly refocused its efforts on preserving and commemorating the history of the Britannia Mine and the people who lived and worked there over its 70 years of operation.

In 1981 the BCMM introduced a new exhibit, "The "Britannia Mine Story." The first major addition to the museum program since it opened in 1975, the exhibit told the history of the Britannia mine from its origins in 1888 to its closure in 1974 through a display of old photographs, maps, original documents and small artefacts and memorabilia collected from former residents.¹⁰² In both 1984 and 1985 the Museum hosted over 800 former residents at Britannia Beach to celebrate the ten year anniversary of the mine's final shift and the opening of

¹⁰² BMMA Documentation of Events and Activities: 1975-1980, "A Celebration: The Tenth Anniversary of the Britannia Beach Historical Society," September 11, 1981; "Major New Exhibit Opened at BC Museum of Mining," *Northern Miner*, November 5, 1981; Greenwood Collection Box 57: Britannia Beach Historical Society/BC Museum of Mining Box 1 of 1, file BBHS Subdivisions, Managers Report, Board of Directors Meeting, September 30 1981.

the museum.¹⁰³ Building on the success of these events, in 1987 the BCMM working with Dr. Dianne Newell, a professor of history at UBC and a director of the BBHS since the early 1980s, initiated the *Britannia Mine Oral History Project*¹⁰⁴. Over the course of the winters of 1987 and 1988 undergraduate students with Dr. Newell's Canadian History class conducted 48 open-ended interviews with former residents of Britannia Beach, collecting memories of Mount Sheer, the Beach, the Company and life down the mine. Copies of the interviews were stored in both the BCMM's and UBC's archival collections.¹⁰⁵

Establishing Historical Significance: National Historic Site

While the concept of a major Theme Park faded quickly from the minds of the BBHS directors, the historical society's aspiration to preserve the in-situ industrial heritage at Britannia Beach had not, and in the late 1980s, the BBHS resurrected its plans to construct a "heritage mining village" at the old mine. Like "Britannia Park", the "Britannia Heritage Mining Village" would attempt to recreate for its visitors "a day in the life of a Coastal Resource Town."¹⁰⁶ Conceived of as more sober affair than the Theme Park, however, these plans centred around achieving national historic site status for the Concentrator/Mill.

The Concentrator/Mill— "Canada's Largest Museum Artefact"— was undoubtedly the museum's most iconic and valuable heritage resource. Towering over the small town and museum, and emblazoned on the BCMM's official logo, the Concentrator/Mill maintained the

¹⁰³ Greenwood Collection Box 57: Britannia Beach Historical Society/BC Museum of Mining Box 1 of 1, Marilyn Mullan, Curator- BC Museum of Mining, to Art Alexander President-Copper Beach Estates, C/O Nelson Machinery Ltd., January 17 1985.

¹⁰⁴ BMMA Historical Files and Archives: Archival Records About the Early History of the BC Museum of Mining, Box 3, Memo: Curatorial Committee to Board of Directors, Re. Report on Curatorial Activity, April 15, 1987.

¹⁰⁵ UBCSCUA, Britannia Mines Oral History Project 1878.

¹⁰⁶ BMMA Historical Files and Archives, file Prelude to the Britannia Opportunity: *Five Year Business Plan for the British Columbia Museum of Mining*, November 12, 1990.

old mine's presence in the landscape and set the tone for the entire museum experience. Time, the weather, and vandals had, however, not been kind to the hulking industrial structure. In the short time after Anaconda ceased operations at the mine the Concentrator/Mill had fallen into a state of dilapidation and ruin. Most of the building's outer cladding had rusted through completely, almost all of the windows were either cracked or completely broken, and significant levels of corrosion were beginning to eat away at the building's lower level support columns. A 1982, engineer's report, commissioned by the BCMM, estimated the cost of restoration at \$2 million.¹⁰⁷ This was money the BBHS and museum did not have.¹⁰⁸ By the mid-1980s, the structural integrity of the Concentrator/Mill had deteriorated to the point that the building had become a public liability. Following a site inspection by the provincial Ministry of Mines in 1986, the BCMM was forced to abandon its "Mill Tour" and cordon off the structure.¹⁰⁹ For the BBHS national historic site status was a means of saving the structure. While the designation would not come with federal funding for rehabilitation or restoration work— this was only provided in cases deemed of extraordinary national significance— it would provide a rallying point around which the museum could fundraise for restoration activities. It would also,

¹⁰⁷ John Idiens, *Report on Study of the Existing Concentrator Mill Building at Britannia Beach, B.C.*, H.A. Simons Ltd. Vancouver: June 15, 1982.

¹⁰⁸ For a brief moment in the early 1980s the BBHS and museum briefly considered "gifting" the Concentrator/Mill to the province in the hope that they would pay for its restoration. Greenwood Collection Box 57: Britannia Beach Historical Society/BC Museum of Mining Box 1 of 1, file BBHS Subdivisions, Memo: Manager BC Museum of Mining to President, BBHS, November 24, 1982.

¹⁰⁹ BMMA Archival Records About the Early History of the BC Museum of Mining, Box 3, Marilyn Mullan to Tara Douglas, Regional Coordinator MAP, July 14, 1987; BMMA Historical Files and Archives, file Prelude to the Britannia Opportunity: Tom Waterline, President BBHS to Hon. Anne Edwards, Minister of Energy, Mines, and Petroleum Services; Janet Wright, *Draft Status Report: Britannia Mines and Concentrator National Historic Site* July 20, 1998. As it was located on an abandoned mine property the BCMM still was under the regulatory authority of the provincial Dept. of Mines.

importantly, provide a springboard from which the BBHA could launch its plan to develop the BCMM into a “developing a Mining Museum of national status.”¹¹⁰

If, as Walter Benjamin has suggested, “in the ruin, history has merged sensuously with the setting,”¹¹¹ then, it is through the national historic site that attempts are made to settle history’s meaning and inscribe it into the landscape. National historic sites tell spatial histories. They are declarations of national identity and history.¹¹² As officially authored and authorised “cultural texts”¹¹³ they effectively wed material places to historical narratives of the nation and its development. In doing so, they stabilise and reify these narratives, grounding them in *place*, and rendering them tangible.¹¹⁴ As geographers Tim Cresswell and Gareth Hoskins have put it, within the “historic site” historical meaning is “made material by place at the same time as place is made significant through the attachments of meanings.”¹¹⁵

The national historic sites program is administered by the Historic Sites and Monuments Board of Canada (HSMBC), an organisation staffed primarily by professional and academic historians. For a place, district, or building to receive historic site status, the HSMBC must deem it to be of “national historical significance”: it must, in some way, embody or speak to broader

¹¹⁰ Mullan and Newell, “Britannia Mines (1888-1988),” 74.

¹¹¹ Walter Benjamin, “The Ruin,” in Michael William Jennings, Brigid Doherty, Thomas Y. Levin, and E. F. N. Jephcott eds. *The Work of Art in the Age of Its Technological Reproducibility, and Other Writings on Media*. (Cambridge, MA: Belknap of Harvard UP, 1998), 180.

¹¹² Brian S. Osborne, “Landscapes, Memory, Monuments, and Commemoration: Putting Identity in its Place.” *Canadian Ethnic Studies* 33, 3 (2001); Yves Yvon J. Pelletier, “The Politics of Selection: The Historic Sites and Monuments Board of Canada and the Imperial Commemoration of Canadian History, 1919-1950,” *Journal of the Canadian Historical Association* 17, 1 (2006):125-150.

¹¹³ Patricia Wood, “The Historic Site as a Cultural Text: A Geography of Heritage in Calgary, Alberta,” *Material History Review*, 52 (Fall 2000): 33-43.

¹¹⁴ P. J. Ethington, “Placing the past: 'groundwork' for a spatial theory of history,” *Rethinking History* 11 (2007) 465- 493; Richard Schein “The Place of Landscape: A Conceptual Framework for Interpreting the American Scene,” *Annals of the Association of American Geographers* 87 (1997): 660-680.

¹¹⁵ Tim Cresswell and Gareth Hoskins, “Place, Persistence, and Practice: Evaluating Historical Significance at Angel Island, San Francisco, and Maxwell Street, Chicago,” *Annals of the Association of American Geographers* 98, 2 (June 2008): 403.

historical narratives and themes of Canadian History. The HSMBC establishes historical significance, designates national historic site status, and ultimately grounds historical narratives of the nation and its development within place through processes of nomination, documentation, evaluation, and negotiation.¹¹⁶ The BBHS initiated this process and submitted a proposal for the Concentrator/Mill to be designated a national historic site to the HSMBC in early 1987.¹¹⁷

The BBHS's proposal was prepared by Marilyn Mullan, executive director of the museum and Susan Green, the museum's curator. Accompanied by a series of letters of support from local MLAs and MPs, it provided a comprehensive history of the Concentrator/Mill, its design, how it worked and its importance to Britannia's mining operations. The BBHS pitch for national historic site status rested on the argument that the Britannia Mine had played a significant role in the development of innovative mining technologies as well as provincial and national resource economies.

Having operated for over 70 years, during which time it employed over 60,000 people and produced over 50 million tons of copper ore and was for a period the "largest copper producer in the British Empire,"¹¹⁸ the Britannia Mine was, the BBHS argued, an important part of BC's and Canada's economic history. Yet, it was primarily as a site of technological development and innovation that BBHS sought to define the Concentrator/Mill's and Britannia Mine's historical significance. The Concentrator/Mill was, the BBHS boasted, "a marvel of industrial engineering and industrial technology...a superb example of the ingenuity of the

¹¹⁶ C.J. Taylor, *Negotiating the Past: The Making of Canada's National Historic Sites and Parks* (Montreal: McGill-Queen's University Press, 1990); Cresswell and Hoskins, "Place, Persistence, and Practice."

¹¹⁷ BMMA Historical Files and Archives: Submission to HSMBC File [hereafter Submission to the HSMBC].

¹¹⁸ Submission to the HSMBC.

Canadian mining industry.”¹¹⁹ “The innovative elevator-type classifier” was, for instance, first developed at Britannia. And Britannia had, the BBHS argued, been the first copper producer in North America to use a “flotation unit” as part of its regular ore concentrating process. The BBHS’s proposal thus sought to establish the historical significance of Britannia and the Concentrator/Mill within a narrative that centred on economic development and technological innovation as key processes of nation making.¹²⁰ As the BBHS argued, the site embodied the broader processes that had put Canada at “the forefront of the world mineral production and the advancement of mining technology.”¹²¹

However, the Concentrator/Mill’s historical significance could not be abstracted from the work of the museum, and just as important to the BBHS’s proposal as the historical argument outlined above was the society’s framing of the structure’s “interpretative value.” As “the last remaining gravity-fed concentrator in North America that is accessible to the general public,” Britannia’s Concentrator/Mill would provide, the BBHS argued, “a rare opportunity to study and illustrate the full spectrum of early 20th Century mining and milling practices...the tunnel network and existing mill provide rich material evidence for scholars, industrial archaeologists and the general public.”¹²² Indeed, in the BBHS’s view the Concentrator/Mills’ historical significance stemmed not just from the history that it embodied and represented, but also from its unique ability to communicate and facilitate the interpretation of this history. As the BBHS’s proposal suggested, the Concentrator/Mill “provides virtually limitless potential for the

¹¹⁹ Ibid.

¹²⁰ For discussion on the ubiquity of such historical narratives in North America see David Nye, “Technology, Nature, and American Origin Stories,” *Environmental History* 8 (2003): 8-24.

¹²¹ Submission to the HSMBC.

¹²² Ibid.

interpretation of [the] innovations, efficiency, and economics of mining.”¹²³ Such a reading of the structure's historical significance was based on its status as “museum artefact”. The argument hinged around what the museum would use it for and how it would feature in future development plans. A large portion of the BBHS proposal was devoted to outlining the society’s future plans for the expansion of the museum, and the key role that the Concentrator/Mill would play in the development of the “Britannia Heritage Mining Village.” The BBHS application was scheduled for discussion by NHSCB at their bi-annual meeting in November. Over the course of the summer, Dr. C.J. Taylor, a professional historian with the Board, evaluated the BBHS’s proposal and prepared a position paper for the HSMBC. The BBHS had included with their application a comprehensive package of “supporting material”. Drawn from recent historical studies and a thesis on the mine as well historical trade and industry reports and serials, this material focused exclusively on the technological innovations that occurred at Britannia, providing textual documentation for the BBHS’s claims. However, the evidence for Britannia’s historical significance lay not just in the textual or archival records but also in the “archive of place.”¹²⁴ As Marilyn Mullan noted in a letter to Dr. Charles. J. Humphries, an historian at UBC and the BC representative of the HSMBC, “one has to personally experience a visit to Britannia to develop a true sense of the valuable industrial heritage from a technological and engineering perspective.”¹²⁵ At Britannia, history had merged with the setting. The Concentrator/Mill’s historical significance could not be appreciated without visiting the site and moving through the

¹²³ Ibid.

¹²⁴ William Turkel, *The Archive of Place: Unearthing the Pasts of the Chilcotin Plateau*, (Vancouver: University of British Columbia Press, 2007).

¹²⁵ UBCSCUA, C W. Humphries Fond, Box 1, file 11, B.C. Museum of Mining : Marilyn Mullan, Executive Director, BCMM to Dr. Charles Humphries, Dept. of History, UBC, July 14, 1987.

cavernous structure. In July, Mullan invited Taylor to visit the site as part of his research.¹²⁶

Taylor, who was himself from North Vancouver and already familiar with the site, declined the offer, and, instead, focused his research efforts on the archives of the Department of Energy, Mines and Resources in Ottawa and the annual reports of the BC Bureau of Mines.

Taylor's report presented a brief, yet comprehensive overview of the history of hardrock copper mining in BC and the Britannia mine's place within it. In many ways his assessment of the significance of the Britannia mine echoed that of the provincial HCB of almost ten years prior. While the Britannia mine's longevity and level of production made it stand out even in the national context, it was just one of several "20th century giants" mining copper in BC, the other more notable mines being the Anyox mine in northern BC and the Copper Mountain mine near Princeton. The report also cast doubt on many of the BBHS's claims regarding Britannia's history of innovation: the Britannia was not, Taylor suggested, the first mine in BC to use flotation technologies. Nor did Taylor have any confidence in the BBHS claims that Britannia's gravity fed concentrator was the only one in North America accessible to the public. And yet, like the BBHS, Taylor assessed the Britannia mine's historical significance within the context of the museum's operations. Like the BBHS, his report cast the material remains of mining at Britannia, "in-situ resources,"¹²⁷ as museum artefacts, artefacts which compared favourably to those at other mining museums in the BC like Barkerville, "which has no historic features except for a tunnel."¹²⁸ In making his final assessment, Taylor concluded that "Britannia's long history

¹²⁶ UBCSCUA, Charles W. Humphries Fonds: Marilyn Mullan, Executive Director, BCMM to Dr. Jim Taylor, Historic Sites and Monuments Board of Canada, July 13, 1987.

¹²⁷ UBCSCUA, Charles W. Humphries Fonds, box 3, file 9: C.J. Taylor, "Britannia Mines and Concentrator," in *Historic Sites and Monuments Board of Canada Agenda Paper, Ottawa, Ontario November 20-22, 1987*: 291-302.

¹²⁸ Ibid.

and present circumstances suggest that it is an important resource for the interpretation of BC mining history.”¹²⁹

At their bi-annual meeting in November 1987, the HSMBC recommended that “the gravity-fed concentrator complex at Britannia Mines is of national historic and architectural significance.”¹³⁰ The HSMBC decision, in line with the BBHS’s proposal, was based on their appreciation of the mine’s economic significance as a source of copper during the 1920s and 1930s as well as its significance as a site of mining innovations and technological development.¹³¹

Historical plaques placed at historic sites assert historical significance and reify meaning. Made of bronze, and framed by maroon coloured edges, the plaques provide a brief outline of a site’s history and the key reasons for its designation as historical site. Although only brief, the description on the plaque is an important medium for establishing and communicating a site’s historical significance. Over the course of 1988 the BBHS and the HSMBC began drafting the inscription for Britannia’s commemorative plaque. While the BBHS and the HSMBC were in general agreement as to the reasons why Britannia and the Concentrator/Mill was worthy of commemorating and celebrating, differences in the two organisations’ understanding of the nature of the site, its history, and significance emerged as they sought to express these understandings. As representative of the BBHS and HSMBC drafted Britannia’s plaque inscription, they disagreed about the wording and drafts went back and forth.

¹²⁹ Ibid., 299.

¹³⁰ UBCSCUA, Charles W. Humphries Fonds, box 2, file 10: *Historic Sites and Monuments Board of Canada Minutes, Ottawa, Ontario November 20-22, 1987*: 34.

¹³¹ Parks Canada, *Britannia Mines Concentrator National Historic Site of Canada, Britannia Beach, BC: Commemorative Integrity Statement* (Ottawa: Parks Canada, 2003).

This editing process reveals how historical facts about the nature of the site were negotiated and Britannia's historical significance was defined and settled.¹³² Seemingly mundane facts about the mine became important points of disagreement. Was the concentrator built in 1923 or 1925? Was it historically accurate to describe the Britannia mine complex as a "network of company towns" as early drafts by the BBHS had done, or was it more appropriate to refer only to the two permanent settlements at Britannia Beach and Mount Sheer? And, what was the best way to communicate the mine's history of innovation? Through a detailed description of the Concentrator/Mill operations? Or, through general references to important technologies deployed at the site.¹³³

Questions regarding the geographical scope of the mine's significance became the greatest points of contention. In their early drafts, prepared by Dianne Newell and Marilyn Mullan, the BBHS had stressed the international nature of the mine's significance. Britannia in the 1920s was, they argued, the "largest copper mining operation in the British Empire."¹³⁴ The HSMBC, a far more conservative organisation, was hesitant to make any such authoritative and what it deemed potentially exaggerated statements. "Such a claim was" the HSBMC noted, "the sort of superlative that the board generally avoids, since someone is sure to come up with some quibble."¹³⁵ It was, the board suggested through its own drafts, more appropriate to describe

¹³² The various drafts produced by both the BBHS and the HSMBC can be found in UBCARS, Charles W. Humphries Fonds, box 1, file 11. The final plaque inscription can be found in *Historic Sites and Monuments Board of Canada Minutes, Ottawa, Ontario February 24-25, 1989*. A copy of which is located in UBCARS, Charles W. Humphries, box 3, file 11.

¹³³ UBCSCUA, Charles W. Humphries Fonds, box 1, file 11: Memo 3 January 1989.

¹³⁴ Ibid., Draft: Britannia Mines and Concentrator; see also Terrance B. Smythe, Historical Research Branch, National Historic Parks and Sites Directorate, to Dr. Charles Humphries, Department of History, University of British Columbia, November 17, 1988 in same file.

¹³⁵ Ibid.

Britannia as simply the “largest mining operations in the province.”¹³⁶ But if this was the case, the BBHS asked, then in what way was the mine nationally significant?¹³⁷ By early 1989 the two organisations had agreed on a compromise and met half way: in the 1920s and 1930s, Britannia “constituted one of the largest mining operations in Canada.”¹³⁸ Such an assertion, Dr. Humphries suggested, “did no disservice to the truth.”¹³⁹

“Historic Landmark or an Environmental Liability?”¹⁴⁰

Britannia’s commemorative plaque was revealed amid great ceremony on the BCMM’s second annual Discovery Day Celebrations in May 1989.¹⁴¹ The site was at the time, according to Dr. Humphries, “the only mining and milling site declared as a national monument in the country.”¹⁴² Achieving national historic site status was a massive boon for the BBHS. On the back of the designation, the historical society produced its new vision for the development of the Britannia mine and Britannia Beach: *The Britannia Opportunity*.¹⁴³ This five year action plan would breathe new life into Britannia Beach and make the former mining town “a model of heritage development in Canada.”¹⁴⁴ It would see a significant diversification of the BBCM activities to include “a mix of light industry residential living, recreation and tourism”

¹³⁶ Ibid., “The Britannia Mines and Concentrator,” Draft text by C.J. Taylor, June 1988.

¹³⁷ UBCSCUA, Charles W. Humphries Fonds, box 1, file 11: Memo 3 January 1989.

¹³⁸ UBCSCUA, Charles W. Humphries, box 3, file 11: *Historic Sites and Monuments Board of Canada Minutes, Ottawa, Ontario February 24-25, 1989*: 33.

¹³⁹ UBCSCUA, Charles W. Humphries Fonds, box 1, file 11: Memo 3 January 1989.

¹⁴⁰ Robert H. McCandless “Britannia Mine: Historic Landmark or Environmental Liability,” *The BC Professional Engineer* (April 1995): 4-7.

¹⁴¹ “Collins to Unveil Historic Sites Plaque,” *Squamish Times*, 2 May, 1989, 23.

¹⁴² Michael Becker, “Unique Designation: Britannia Mine Named a National Historic Site,” *North Shore News*, 6 March, 1988: 39.

¹⁴³ BMMA Historical Files and Archives, file Prelude to the Britannia Opportunity: BBHS *Five Year Business Plan for the British Columbia Museum of Mining*, November 12, 1990.

¹⁴⁴ Ibid., 6.

developments, “appropriate for the National Historic Site.”¹⁴⁵ However the project would remain centred on a newly stabilised and fully restored Concentrator/Mill and “world class museum and authentic mining village.”¹⁴⁶ The BBHS had, after all, secured the survival and revitalisation of Britannia Beach on the site’s mining heritage and through establishing its historical significance. The “Britannia Opportunity” would be no different.

And yet the historical meanings and significance attached to places are not immutable. They face disruptions and challenges. In the 1990s, the challenges facing the BBHS were coming, somewhat ironically, from the Britannia mine itself. As Cresswell and Hoskins have observed, “the pursuit of an essential and pure past is ultimately illusive and amounts to the denial of a place’s contemporaneity.”¹⁴⁷ While, since the 1970s the BBHS had sought to commemorate and settle celebratory spatial histories of BC’s mining past at Britannia, by the mid-1990s the denial of Britannia mine’s other legacies— its history of acid mine drainage— was no longer tenable. Indeed, by the early 1990s the Britannia Mine was making headlines for this persistent pollution problem and the failure of successive governments and its current owners, CBE, to address the issue.¹⁴⁸ The museum, and the concentrator building in particular, had come to represent the toxic legacies and environmental controversies that had quietly and invisibly plagued the old mine since it closed in the 1970s. Rolled out in photographic covers of articles and news reports detailing the AMD issues at the site, the dilapidated industrial structure,

¹⁴⁵ Ibid.

¹⁴⁶ BMMA Historical Files and Archives, file Prelude to the Britannia Opportunity: BBHS *A Concept to Preserve and Enhance the Britannia Mines Concentrating Mill Complex and Adjacent Lands as the Primary Example of Canada’s Mining Heritage in the Early Part of the 20th Century*.

¹⁴⁷ Cresswell and Hoskins, “Place, Persistence, and Practice,” 401.

¹⁴⁸ As part of the deal struck with Anaconda to purchase the Britannia mine in 1979, CBE had agreed to take on all environmental liabilities associated with the site. Although the owners of 40 acres of property at the site, the BBHS had an indemnified against any liability.

rusting and decaying, had taken on new meanings; it had become the visual representation for a pollution problem that could not been seen, as well as a symbol of the toxic effects of mining and the failure of industry and provincial authorities to deal with it.

The impacts of this were more than just symbolic. As public awareness in the environmental problems associated with the mine site grew, they began impacting the BBHS's ability to raise funds for its preservation and development plans. While the museum had made a concerted effort to distance itself from the environmental liabilities at the site and the complicated legal issues that surrounded it,¹⁴⁹ the site's acid mine drainage, or, perhaps more accurately, the massive environmental liabilities associated with the problem, had scared off potential investors and supporters. Indeed, while in the early 1990s the HSMBC had entered a cost sharing agreement with the BBHS to help stabilise and restore the Concentrator/Mill and expand the museum operations, by 1998 the scheme had been abandoned as the BBHS was unable to raise the matching funds. The BBHS's primary fear was that if a solution could not be found for the environmental and legal issues at the site, "Britannia Beach will become an Orphan Site and British Columbians will lose a major heritage resource and tourist attraction."¹⁵⁰ The mine's environmental legacy was threatening to destroy its cultural one.

¹⁴⁹ See for example BMMA Documentation of Events and Activities: 1994, Wendy Magee, "Mining Museum Independent of other Britannia Operations," *Squamish Chief*, 1 July, 1994.

¹⁵⁰ BMMA Historical Files and Archives, file Prelude to the Britannia Opportunity: Marilyn Mullan to Hon. Bill Barlee, Ministry of Small Business, Tourism, and Culture, July 5, 1994.



Figure 2.2: “Britannia Mine and Concentrator” Commemorative Plaque. Photograph by the author.

Conclusion

Conceived in the midst of the 1971 Centennial Celebrations the British Columbia Museum of Mining was cobbled together through the concerted efforts of the BBHS with the backing from the mining industry and support of federal and provincial governments. The establishment of the museum constituted a fundamental revaluing of the material landscape at Britannia Beach. Buildings, tunnels, and machinery designed to extract and process ore were put to work to tell the story of mining in British Columbia. By the late 1970s, what had started as an effort by BBHS to commemorate and celebrate the mining industry in the province became a means of economic revitalisation and redevelopment.

The BCMM narrated the history of British Columbia in terms of the mining industry and resource extraction. The commemorative actions of the BBHS, through the museum, the theme park plan, and application for National Historic Site status were all attempts to reify and stabilise meaning at Britannia Beach. They sought to establish the Britannia mine within an historical imaginary of British Columbia as “mining country”, and anchor spatial histories of the province and nation that framed resource extraction and developments in mining technology as the cornerstones of economic, social and political development. The reasons for this were simple. First, it was an attempt to promote the interests of and raise public awareness about the mining in the B.C. Second, it was a means of drawing on the history of mining at Britannia Beach as an economic resource for the redevelopment of the old mining town as a heritage destination. And yet such meanings are rarely if ever settled. Place meanings and the memories and histories attached to place change. They are contested and debated. New meanings emerge. By the mid-1990s these narratives of technological innovation and economic development were being overwhelmed by narratives of another sort—narratives of environmental degradation and

pollution. It is to this, the complicated history of the Britannia mine's toxic legacy, that I will now turn.

Chapter 3: “Let’s Face it that Mountain is Full of Poison”: AMD and the Environmental Legacies of the Britannia Mine

“When the ores are washed the water which has been used poisons the brooks and streams and either destroys the fish or drives them away.”¹⁵¹

Georgius Agricola, *De Re Metallica*, 1556.

This chapter focuses on Britannia’s environmental legacies. Like many closed and abandoned mines in BC and Canada, Britannia’s afterlife was dogged by persistent environmental contamination in the form of AMD. It is a “zombie mine.” Following Rob Nixon, I suggest that Britannia’s AMD is a form “slow violence.” It is a persistent and long-term source of environmental pollution, that challenges conventional conceptions of “environmental emergencies” or “disasters” as temporally bounded events. Efforts to control and remediate such forms of environmental contamination can be enormously expensive and highly technical endeavours. Between the early 1970s and the early 2000s, the Britannia mine became the site of intense scientific study and environmental assessment, as waves of provincial and federal scientists and environmental consultants sought to address and control this source of pollution. This chapter seeks to understand the afterlife of the Britannia mine through a detailed exploration of these state actions.

However, as both Sandlos and Keeling and Eldridge stress, “zombie mines” and the remediation projects designed to address the “slow violence” associated with them need to be

¹⁵¹ Georgius Agricola, *De Re Metallica*, Translated by Herbert Hoover. (New York: Dover Publications, 1950): 8.

seen as much more than mere technical issues.¹⁵² Abandoned mine remediation and restoration projects are entangled in a whole host of political, economic, and ecological relations. They are beset by questions of responsibility— who will pay?— and appropriate remediation—how clean it clean? In tracing out the environmental controversy that unfolded at the Britannia mine, this chapter details the ways which state agencies, both provincial and federal, and the owners of the mine, both past and present, responded to and negotiated the answers to these questions. In doing so I highlight the importance of a historical perspective in the study of mine closure and remediation. The role that the state could and did play depended on its legal authority as well as the scientific and technical advice it received. Many of these relevant contexts— science, the law and environmental regulations, corporate and state power— shifted over time. Finally, placing Britannia’s afterlife within the its broader economic, geographical and historical contexts, I show how understandings of its environmental legacy and the efforts to address them were also shaped by different visions and plans for site’s future economic redevelopment.

Pollution Control: The First Steps

Acid mine drainage had been identified at the Britannia Mine long before the mine closed in 1974. In the 1920s the Britannia became the first mine in British Columbia to be identified as a source of AMD,¹⁵³ and over the course of the Britannia’s operating life the mine became an important site for the study of the acidic effluent and its potential industrial applications. Staring in the 1920s mine engineers, geologists, and researchers explored various ways of integrating the acidic and copper rich effluent into the mines profitable operations. By 1925 they had developed a process capable of extracting copper from the effluent on a commercial scale. The

¹⁵² Sandlos and Keeling, “Zombie Mines,”; Eldridge, "The Continuum of Coal Violence".

¹⁵³ B.C. Acid Mine Drainage Task Force, *Draft Acid Rock Drainage Technical Guide, Vol. I*, (Victoria: BC) Ministry of Energy Mines and Petroleum Resources, 1989.

“precipitation process,” as it was termed, worked by passing copper rich effluent through wooden launders—trough like boxes—full of shredded tin can scraps from local canneries. As the mine water passed over the tin the dissolved copper within the effluent would “precipitate” out of solution and accumulate at the bottom of the launders. In 1928, a full-scale precipitation plant installed at the Mount Sheers site—in order to process the “high grade” or high copper content water draining from the 2200 level—produced 226.8 mt of copper, or 1.5% of the mines total output for that year.¹⁵⁴ Throughout the 1930s and 1940s BMSC engineers continued to experiment with and refine the precipitation process, and in the 1950s the company retained the services of the B.C. Research Council to investigate alternate and more efficient methods capable of extracting the “low copper assay waters...currently going to waste” from the 4100 level.¹⁵⁵ By 1956 a new and larger “precipitation plant” had been designed and constructed at Britannia Beach to process this effluent and capture the valuable copper before it was lost to Howe Sound.¹⁵⁶ Over the course of the mines operating life the “precipitation plants” produced on average 1% of the mines total output of copper.¹⁵⁷ While the “precipitation plants” at the mine certainly played a small role in reducing the quantity of copper entering Britannia Creek and Howe Sound, pollution abatement was not a concern.

¹⁵⁴ F. Ebbutt and W. E. Seines, "The Precipitation of Copper from Mine Waters at Britannia Mines, B. C.," *Trans. C.I.M.*, 31 (1928), 290 - 309. See also W.G. Smitheringale, "Great Mining Camps" and Hovis, "Technological Change and Mining Labour," 109.

¹⁵⁵ BCARS, Britannia Mining & Smelting Company, Limited (hereafter BMSC), MS1221, Box 69, File 35, Letter from Mr. E.C. Roper to Dr. J.D.H. Strickland, November 10, 1953.

¹⁵⁶ For details regarding the development of the precipitation process at Britannia see BCARS, BMSC, MS1221, Box 107, File 27; Box 108, File 7 and File 30; Box 69, File 35 and UBCSCUA, Howe Sound Company (Britannia Division) Records, Box 55, File 1, BC Research Council "Project Report- Recovery of Copper from Mine Water Using Limestone", June 24, 1952. See also W.G. Hatch, "Britannia Mine", in J. Convey et al eds. *The Milling of Canadian Ores: Commonwealth Mining and Metallurgical Congress* (1957), 228- 233.

¹⁵⁷ Smitheringale, "Great Mining Camps", 121.

For most of the mine's operating life provincial and federal authorities were similarly uninterested in the mine's environmental impacts. Mining in the province was regulated by the B.C. Mines Act under the jurisdiction of the B.C. Ministry of Mines (BCM).¹⁵⁸ The Mines Act governed and managed access to and the rational extraction of mineral resources within the province and, until the late 1960s, made no reference to issues of pollution and environmental protection.¹⁵⁹ In light of this absence of environmental protection legislation in B.C. the federal *Fisheries Act* provided the most robust protection against environmental degradation and industrial pollution. Although, as historical geographer Arn Keeling has shown, in the first half of the 20th century in B.C., the DFO was often as unwilling as the provincial authorities to regulate pollution associated with mining.¹⁶⁰ For much of its operating life the Britannia mine was able to pollute Britannia Creek and Howe Sound with impunity.

This would begin to change in the late 1960s, and by the time the mine closed in 1974 a very different regulatory environment would exist in the province. As noted in the previous chapter, the 1960s in B.C. saw the emergence of a range of politically engaged and environmentally conscious organisations.¹⁶¹ Guided by organisations such as the B.C. Wildlife Federation, SPEC, and Greenpeace many British Columbians began to value the environment in terms of its aesthetic beauty, ecological value, and recreational opportunities rather than in

¹⁵⁸ Under the *British North American Act* of 1867, which set out the constitutional rights and responsibilities of the federal and provincial governments in Canada, provinces were conferred jurisdictional authority over their natural resources, including land, timber and water, minerals.

¹⁵⁹ Raymond W. Payne, "Corporate Power, Interest Groups, and the Development of Mining Policy in British Columbia, 1972-77," *BC Studies* 54 (Spring 1982): 3-37.

¹⁶⁰ Keeling, "Effluent Society."

¹⁶¹ Frank Zelko, "Making Greenpeace: The Development of Direct Action Environmentalism in British Columbia," *B.C. Studies* 142/143 (Summer/Autumn, 2004): 197-239; Arn Keeling "Effluent Society"; Graeme Wynn "Shall We Linger Along Ambitionless? Environmental Perspectives on British Columbia," *BC Studies* 142/143 (Summer/Autumn, 2004): 5-68; See Kathryn Harrison, *Passing the Buck: Federalism and Canadian Environmental Policy* (Vancouver, BC: University of British Columbia Press, 1996) for a discussion of first wave, second wave, and third wave environmentalism in Canada and their impacts on federal and provincial environmental policies.

terms of acres of trees felled and tonnes of ore extracted. This growing public awareness and political mobilisation around issues of mining pollution provoked reforms in provincial environmental governance regulation and practices.¹⁶²

In 1969 British Columbia amended the *Mines Regulation Act*, becoming one of the first Canadian provinces to introduce mine reclamation legislation.¹⁶³ In the late 1960s the Pollution Control Act was also significantly overhauled and revamped. Amending the Act, the provincial government established the Pollution Control Branch (PCB), a full-time technical agency housed within the Water Resource Service of the B.C. Ministry of Lands, Forests, and Water Resources. Authorised to issue permits, investigate pollution, and punish violations, the PCB expanded greatly the province's role in regulating waste discharges and industrial pollution and became the backbone of the province's pollution governance regime throughout the 1970s.¹⁶⁴

The PCB first sought to bring the Britannia mine under permit in the early 1970s.¹⁶⁵ As one of only two AMD generating mine in the province at the time, the Britannia mine was a particularly significant case for the PCB, as one official noted in 1972, "Britannia is one of two acid drainage problems found in B.C. at this time. While the location and local conditions are unique any decisions made concerning this property will effect existing or future plants."¹⁶⁶

¹⁶² Yasmeen Qureshi, "Environmental Issues in British Columbia: An Historical-Geographical Perspective", (MA Thesis, University of British Columbia, 1991); Keeling, "Effluent Society"; HG Anthony Dorcey "The Management of Super, Natural British Columbia," *BC Studies* 73 (Spring 1987): 14-32; Frank Zelko, "Making Greenpeace."

¹⁶³ A. Peter Hertzberg, *Mining and Pollution in B.C.* (Victoria: University of Victoria, 1982), 21. See also Patrick A. Moore, "The Administration of Pollution Control in British Columbia: A Focus on the Mining Industry" (PhD diss. University of British Columbia, 1974); Keeling, "Effluent Society", 178-179.

¹⁶⁴ Keeling, "Effluent Society", 171; Leon Kolankiewicz, "Compliance with Pollution Control Permits in the Lower Fraser Valley, 1967-1981," *BC Studies*, 72 (Winter 1986/87): 28-48.

¹⁶⁵ Greenwood Collection, box 20, Pollution Control, 1 of 2, file Pollution Control Permit No. AE. 2194: A.J. Chmelauskas, P. Eng. Chief-Industrial Division, Pollution Control Board to B.B. Greenlee, Vice President and Manager, Anaconda Britannia Mines Ltd., February 19, 1970.

¹⁶⁶ Greenwood Collection, box 20, Pollution Control, 1 of 2, file Pollution Control Permit No. AE. 2194, F.P. Hodgson, Memo to File—May 25 1972- PCB.

However, in the early 1970s, very little was known about effects that almost 60 years of AMD at the mine was having on Howe Sound's marine environment. Understanding the mine's environmental impact was an essential step in determining appropriate discharge levels, issuing a discharge permit, and designing a waste management program.

The first environmental impact studies of the Britannia mine were carried out in early 1972 by Robin Harger, a lecturer with the Department of Zoology at the University of British Columbia and a well known and controversial environmental activist. Harger was a former president of SPEC. In 1971 he left that organisation and along with lawyer and environmental activist Gerry Culhane established the short-lived Environmental Systems Community Association (ESCA).¹⁶⁷ Harger's studies formed the basis of the Environmental Systems Community Association's (ESCA) submission to the Pollution Control Board's 1972 Public Inquiry into the Matter of Waste Discharges from the Mining, Mine-Milling and Smelting Industry.¹⁶⁸ Presented at the Inquiries in the second round of hearings in Vancouver, Harger's research detailed a considerable pollution problem at the mine. Analysis of effluent samples from the mine's main outfall pipes recorded pH levels as low as 3.8 and extremely high levels of zinc, iron and copper. Copper levels were recorded as high as 22 ppm, or as Harger stressed "1000 times higher than the rate recommended by California State water quality control board for fresh

¹⁶⁷ Keeling, "Effluent Society," 316.

¹⁶⁸ Over the course of the 1970s, the PCB held seven public inquiries into the pollution associated with forestry, mining, petroleum and chemical industries, agriculture, and municipal waste. The aim of these inquiries was to elicit technical and scientific information for the establishment of pollution control objectives in BC. The 1972 inquiry was the first of two inquiries that would deal with the mining industry; the second would occur six years later in 1978. For ESCA's submission see British Columbia Pollution Control Branch, *Public inquiry into the matter of waste discharges from the mining mine-milling and smelting industries* (Victoria: B.C. Research Council, 1972), appendix B, exhibit 13; and appendix C, exhibit 14. For an excellent overview of the public inquiries see Keeling, "Effluent Society", chapter 5.

water aquatic life”.¹⁶⁹ Bioassay tests carried out on Britannia’s effluent using juvenile coho salmon confirmed the effluent’s extreme, lethal toxicity.

The ESCA’s Britannia mine investigations were not only presented to the PCB Inquiry, but were also publicly reenacted. On the first morning of the Inquiry’s Vancouver sitting, the ESCA set up a demonstration of their Britannia study outside the hearings to “show effects newer mines would have on B.C.’s ecology if left unchecked.”¹⁷⁰ Rocks, sourced from Britannia Creek devoid of all marine life were put on display, as were tanks of young, slowly dying coho salmon as Harger repeated his bioassay studies. The macabre spectacle received widespread coverage in the Vancouver newspapers. The “mine to make Vancouver” had become the public face of the mining industry’s toxic environmental—a place where only algae could grow.¹⁷¹

Anaconda was eager to produce their own environmental data. In 1972 the company initiated a monitoring program and carried out their own bioassay tests. The following year they contracted Howard Paish— former executive director of the B.C. Wildlife Federation and— to “determine whether the current discharge is causing a progressive deterioration,” and to recommend waste management methods that would bring the Britannia mine in line with the PCB’s newly established “Level C” pollution control objectives.¹⁷² The results of this

¹⁶⁹ British Columbia Pollution Control Branch, *Public inquiry into the matter of waste discharges from the mining mine-milling and smelting industries* (Victoria: B.C. Research Council, 1972), appendix B, exhibit 13, 63.

¹⁷⁰ “Algae Only Life Left Near Mine,” *Victoria Times*, 17 March, 1972, 1.

¹⁷¹ Ibid.; Ron Rose, “Pollution Hearing Shown Dying Fish,” *Vancouver Sun*, 14 March, 1972, 33; “Heavy Metal Levels in Mine Effluent Grave Pollution Problem, Probe Told,” *Vancouver Sun*, 17 March, 1972, 24.

¹⁷² Greenwood Collection, box 20, Pollution Control, 1 of 2, file Pollution Control Permit No. AE. 2194, Howard Paish and Associates, *A Preliminary Environmental Assessment of the Mine and Mill Discharges of Britannia Mines*, (Howard Paish and Associates, Vancouver, May 1973). Following the Public inquiry into the matter of waste discharges from the mining mine-milling and smelting industries, the PCB published its pollution control objectives for the mining industry. Intended to provide a standardised yet flexible approach to pollution control the objectives established three effluent quality guidelines— Level C, Level B, and Level A—to reflect the different effluent qualities, ages, and receiving environments of mining and smelting plants. Given the age of the Britannia mine it was initially required to meet Level C standards. For the PCB objectives see British Columbia Pollution Control

investigation, published in May 1973, bore bad news for Anaconda. While the Paish report noted that the waste from the mine's concentrator met the PCB's "level C" standards, it echoed many of the ESCA's findings, confirming the lethal toxicity of the effluent flowing from the mine's 2200 level and 4100 level and describing a receiving marine environment totally "denuded of life."¹⁷³ At this time researchers with the Fisheries Research Board and PCB initiated their own environment studies at Britannia.¹⁷⁴ Again, the conclusions of these investigations were in general agreement with those of Harger and Paish.

The PCB issued Anaconda with their first pollution abatement order, just one week before the mine closed on November 1st.¹⁷⁵ Under the 1974 Pollution Abatement Order, Anaconda was required to "collect mine water and direct it to the 4100 portal and thence to Howe Sound at depth, after appropriate treatment (i.e. Cu removal)"¹⁷⁶. As Leon Kolankiewigz

Branch, Pollution Control Objectives for the Mining, Mine Milling, and Smelting Industries of British Columbia (Victoria: PCB 1973).

¹⁷³ Greenwood Collection, box 20, Pollution Control, 1 of 2, file Pollution Control Permit No. AE. 2194, Howard Paish and Associates, *A Preliminary Environmental Assessment*, 19.

¹⁷⁴ See Neil G. McDaniel, *Survey of the Benthic Macroinvertebrate Fauna and Solid Pollutants in Howe Sound*, Fisheries Research Board of Canada Technical report No. 385 (West Vancouver, Pacific Environment Institute, 1973); C.D. Levings and N. McDaniel, *Biological Observations From the Submersible Pisces IV Near Britannia Beach, Howe Sound, B.C.*, Fisheries Research Board of Canada Technical Report No. 409 (West Vancouver, Pacific Environment Institute, September, 1973); J.A.J. Thompson and F. Terrence McComas, *Copper and Zinc Levels in Submerged Mine Tailings at Britannia Beach, B.C.*, Fisheries Research Board of Canada Technical Report No. 437 (West Vancouver, Pacific Environment Institute, January 1974). For details of the PCB studies and their findings see Greenwood Collection, box 20, Pollution Control, 1 of 2, file Pollution Control Permit No. AE. 2194.

¹⁷⁵ Marian Bruce, "Britannia Beach Mine Turns into Pumpkin Tonight," *Vancouver Sun*, 1 November, 1974, 35; Mark Wilson, "Whistle Blast Anaconda's Last," *The Province*, 2 November, 1974, 29. Anaconda had announced their plans to close the mine a month earlier, citing low copper prices and a dwindling ore reserves. See John Griffiths, "Floods, Fires Can't Do It, But Wobbly Market Can!", *The Province*, 8 October, 1974, 1; "Britannia Mines to Close", *Vancouver Sun*, 7 October, 1974, 1; "Britannia Mine 'not economic'", *Vancouver Sun*, 18 October, 1974, 20; Ron Rose, "There's a Feeling of Doom at Britannia," *Vancouver Sun*, 8 October, 1974, 37. If in the autumn of 1974 the PCB was aware of the mine's impending closure, they didn't bring it up with Anaconda. Indeed, in a telephone meeting between the PCB and Anaconda in early September 1974 the main issues discussed were the delays in completing environmental impact studies and the difficulties encountered while installing water gauges at the mouth of Britannia Creek.

¹⁷⁶ Quoted in Commission for Environmental Cooperation (hereafter CEC), *Factual Record BC Mining Submission SEM-98-004* (June 27, 2003) available at www.cec.org/sites/default/files/submissions/1995_2000/6172_98-4-ffr_en.pdf (hereafter *Factual Record BC Mining*), 84.

has shown, throughout the 1970s the PCB's approach to the enforcement of pollution control orders was to "to negotiate compliance in as cooperative a manner as possible rather than to threaten or use prosecution frequently."¹⁷⁷ Over the course of the next few years Anaconda and the PCB—consulting with representatives of Environment Canada—engaged in a process of negotiation and compromise to develop a waste management plan that would fulfil the requirements of the 1974 order and that would be amenable to both parties as well as the federal authorities.¹⁷⁸ Throughout these negotiations Anaconda stressed to the PCB the precarious financial circumstances they found themselves in since closing the mine in 1974¹⁷⁹—a message to which the PCB was receptive. One of Anaconda's main concerns was that any pollution management system they adopted would have a certain "security of tenure"; Anaconda wanted to know that once a pollution abatement plan had been agreed upon and implemented no further action would be required by either the PCB or Environment Canada. The PCB was reluctant to offer any such guarantees. The levels of toxic materials within the drainage were far in excess of any federal and provincial standards at the time, and would remain so even after "treatment". At this time, the PCB was also developing plans for an experimental AMD research facility at the mine "to find a means of treating the mine water at Britannia, having possible application at other locations."¹⁸⁰ The PCB had hoped that Anaconda would contribute technical

¹⁷⁷ Leon John Kolankiewicz, "Implementation of British Columbia's Pollution Control Act, 1967, in the Lower Fraser River," (MSc thesis, University of British Columbia, 1981): iv.

¹⁷⁸ A selection of internal memos and reports from both the PCB and Anaconda that detail these discussions and negotiations, which for the most part appeared to be cordial and friendly. These can be found in Greenwood Collection, box 20, Pollution Control, 1 of 2, file Pollution Control Permit No. AE. 2194 and file Pollution Control-Notes, Meetings, P8 and file, Environmental Control—Mill and Plant Discharge Applications (1970s).

¹⁷⁹ Greenwood Collection, box 20, Pollution Control, 1 of 2, Folder: Environmental Control—Mill and Plant Discharge Applications (1970s): J. Lovering to W.N. Venables, December 9, 1974,

¹⁸⁰ J.B. Brodie, Memo to File "Meeting with EPS and Fisheries re Anaconda Ltd. (AE-2194)", March 4, 1977 quoted in full in CEC, *Factual Record BC Mining*, 88., see also Dr. Ellis's submission in British Columbia, Pollution Control Branch, *Public inquiry to review pollution control objectives for the mining, mine-milling and*

and financial assistance; however, by 1976, due to budgetary and staff restrictions, the PCB's plans for a research facility at Britannia were untenable. Anaconda's proposal was the only show in town.

Anaconda had first produced a plan to meet the requirements of the 1974 order in early 1975. The company's proposal, which emerged out of discussion with the PCB, was a simple one: collect and combine all mine effluent and mill waste, and discharge it into Howe Sound at a level deep enough to keep it from mixing with and contaminating the fjord's surface waters. More specifically, Anaconda would construct a concrete dam at the 2200 level to contain and divert AMD through the mine workings to the 4100 (Beach) level. Here, AMD from both levels would be mixed and passed through a newly constructed and larger copper precipitation plant. Once "treated" all effluent would then be discharged into Howe Sound at a depth of 100ft.¹⁸¹ Anaconda presented their final waste management plan to the PCB in April 1976.

In March 1977 the PCB and Environment Canada met to discuss the merits of Anaconda's plan.¹⁸² Representatives of PCB noted that even after treatment in the "precipitation plant" the levels of toxic materials within the drainage would "not come close to meeting either PCB levels or Environment Canada standards."¹⁸³ They did add, however, that Anaconda's plan would rehabilitate Britannia Creek, improve the aesthetics at the site, and remove contaminants from Britannia's foreshore area. Environment Canada expressed some concerns that other

smelting industries of British Columbia (Victoria: Ministry of Environment, 1978), vol 7; and Greenwood Collection, box 20, Pollution Control, 1 of 2, file, Pollution Control- Notes, Meetings, P8 R.D. Cummings "Notes on Meeting with Pollution Control Branch— December 2, 1975".

¹⁸¹ Greenwood Collection, box 20, Pollution Control, 1 of 2, file, Pollution Control- Notes, Meetings, P8: J.B. Brodie, memo to file, May 3, 1976 and box 74 Reports/Correspondence/General_Mining Company etc. file Environmental Control— Mill and Plant Discharge Applications (1970s) R.D. Cumming to F.J. Laird, May 6, 1976.

¹⁸² J.B. Brodie, Memo to File "Meeting with EPS and Fisheries re Anaconda Ltd. (AE-2194)", March 4, 1977 quoted in full in CEC, *Factual Record BC Mining*, 88.

¹⁸³ Ibid.

treatment options were not being pursued. However, by April 1977 both federal and provincial authorities had approved Anaconda's plans. The following October the PCB issued Anaconda with a new Pollution Abatement Order based on their proposal. As part of the order Anaconda was also required to continue their monitoring program and submit quarterly reports to the PCB.¹⁸⁴ By 1978 Anaconda had successfully diverted all mine effluent from the 2200 level to the 4100 level. The company had also constructed a concrete plug at the 4100 level to regulate the flow effluent before it entered the "precipitation plant" and was finally discharged into Howe Sound. A year later, the PCB amended the pollution abatement order: Anaconda was now only required to pass the mine effluent through the precipitation plant when the copper content of the effluent exceeded 15mg/l. When copper content was less than 15mg/l the plants could be bypassed.¹⁸⁵

At the PCB's Public Inquiry into Mining Pollution in 1978, Dr. Derek Ellis, a well known marine ecologist with the University of Victoria, cited these initial remediation efforts at the Britannia mine as proof that "the existing system of pollution control in BC is beginning to work. Pollution is being prevented; pollution is being cleaned up."¹⁸⁶ However, there seemed little cause for such optimism. In 1978 the Britannia mine's discharge was still acutely toxic. The 15mg/l of copper that Anaconda was permitted to discharge into Howe Sound was far in excess

¹⁸⁴ Greenwood Collection, box 20: Pollution Control. Box 1 of 2, file Pollution Control Permit No. AE. 2194: W.N. Venables, P.ENG, Director, PCB, to Anaconda Britannia Mines, October 13 1977.

¹⁸⁵ Greenwood Collection, box Pollution Control 1 of 2, file Environmental Control— Mill and Plant Discharge Applications (1970s): H.P. Klassen to R.D. Cumming, April 18, 1979.

¹⁸⁶ British Columbia, Pollution Control Branch, *Public inquiry to review pollution control objectives for the mining, mine-milling and smelting industries of British Columbia* (Victoria: Ministry of Environment, 1978), vol 7, 54.

of the PCB's own stated objective of between .05mg/l and .3mg/l. By the PCB's own standards the mine was an environmental disaster.¹⁸⁷

Anaconda submitted the final report from their monitoring program to the Waste Management Branch (WMB) of the BC Ministry of Environment in December 1979.¹⁸⁸ In October, Anaconda had sold its mineral claims and property at Britannia to CBE. On purchasing the site CBE had agreed to assume full responsibility for all past and future environmental liabilities associated with the mine, and in January 1981 the B.C. Ministry of Environment issued CBE with a new pollution abatement order.¹⁸⁹ The company was almost immediately in violation of this new order. In 1983 they stopped submitting monitoring reports to the WMB, and the following year the infrastructure installed by Anaconda in the late 1970s began to fail: the dam at the 2200 level had been breached and AMD, no longer being diverted through the mine workings to the 4100 level, was again flowing directly into Britannia Creek.¹⁹⁰

In the meantime, WMB and Environment Canada officers continued to monitor the site. Water samples taken from around the mine between 1980 and 1984 revealed a marked improvement in the in the quality of the mine effluent since operations ceased— by 1984 copper concentrations had decreased and stabilised to roughly ten percent of those recored in the early 1970's. However, with an 417kg/d of copper flowing down Britannia Creek and into Howe

¹⁸⁷ British Columbia, Ministry of the Environment, *Pollution Control Objectives for The Mining, Smelting, and Related Industries of British Columbia* (Ministry of Environment, 1979).

¹⁸⁸ Greenwood Collection, box 74- Reports/Correspondence/General_Mining Company etc., file Heritage Properties: F.A. Alexander, *History of Copper Beach Estates Ltd. From Inception to Present*, October 20th, 1983. After a reorganisation of government ministries in 1979, the PCB was moved to the Ministry of Environment and its duties divided between the Air Management Branch and the Waste Management Branch (WMB). The WMB was responsible for water pollution control.

¹⁸⁹ Greenwood Collection, box 20 Pollution Control 1 of 2, file Pollution Control Permit AE- 2194: R.H. Ferguson to Copper Beach Estates Ltd. January 29, 1981.

¹⁹⁰ Greenwood Collection, box Pollution Control 1 of 2, file Pollution Control Permit AE- 2194: Letter M.J. Stringer to R.D. Cumming, December 20, 1984.

Sound, metal loadings within the mine's discharge remained alarmingly high and acutely toxic to marine life. Field studies carried out in the late 1970s and early 1980s revealed an almost total absence of muscles, oysters, and other benthic life within the mine's immediate environment, while studies of mussels and oysters within the sound indicated bioaccumulation of copper and zinc at levels up to thirteen times what was judged to be normal.¹⁹¹

In addition to these environmental impact studies, evaluations of the precipitation plant at the 4100 level revealed it to be completely ineffective as a treatment system.¹⁹² In 1985 it was clear that treatment requirements outlined in the 1981 Pollution Abatement order were— even if adhered to fully— wholly inadequate for addressing the Britannia's significant AMD issue. The first investigations into alternate, long-term treatment solutions for Britannia's pollution problem— carried out by researchers with the British Columbia Acid Mine Drainage (BCAMD) Task Force— wouldn't occur until the early 1990s. In the meantime the WMB continued to write to CBE requesting that they comply with the 1981 order.¹⁹³ The WMB's calls for CBE's compliance produced no result. When, in 1990, B.C. Ministry of Environment began publishing a bi-annual report on "Waste Management permit non-compliance," CBE was named and shamed with the rest of the province's worst polluters.¹⁹⁴

¹⁹¹Darcy Goyette and Keith Ferguson, *Environmental Assessment of the Britannia Mine - Howe Sound*. (Department of Environment, Environmental Protection Service, Pacific Region, 1985).

¹⁹² Ibid.

¹⁹³ Examples of this correspondence can be found in Greenwood Collection, box Pollution Control 1 of 2, file Pollution Control Permit AE- 2194.; On two occasions the WMB had considered taking legal action against the owners of CBEL; however, the 1981 Order's somewhat ambiguous wording and "out-of-date" effluent standards thwarted these more aggressive enforcement efforts before they ever got off the ground, see CEC, *Factual Record BC Mining*, 93.

¹⁹⁴ "List of 116 polluters released by minister," *Vancouver Sun*, 23 July, 1990: B1.

Placing Pollution

As significant as the Britannia mine's AMD issues were, they were not the only environmental concern in Howe Sound at the time. Indeed, in the 1980s and early 1990s industrial pollution from the pulp mills at Woodfibre and Port Mellon on the western shore of Howe Sound, as well as municipal waste from Squamish were regulars in the provincial newspaper's headlines. Howe Sound was well represented on the Ministry of Environment's of waste permit non-compliance list.¹⁹⁵

Environmental politics in Howe Sound had—since at least the late 1960s— been cast as a conflict between recreational and industrial visions of development within the region. The Britannia mine, established in 1905, was the first major industrial development in the sound and was followed by the pulp mills at Woodfibre a decade later and at Port Mellon in the 1920s.¹⁹⁶ For most of 20th century Howe Sound's economy was dominated by resource based industrial activity. Yet, Howe Sound had for a long time also been considered a recreational haven. In the early 20th century Union Steamship Ferries delivered well-to-do weekend sojourners from Vancouver to resorts on Bowen Island and the Seaside Hotel at the mouth of the Rainy River. Starting in the 1930s, Howe Sound played host to the *Vancouver Sun's* annual Salmon Derby. The post-World War Two boom in outdoor pursuits and recreation in B.C., coupled with the development of the Sea-to-Sky highway in the 1950s, consolidated Howe Sound's reputation as 'Vancouver's Playground'.¹⁹⁷

¹⁹⁵ Ibid.

¹⁹⁶ Doreen Armitage, *Around the Sound: A History of Howe Sound- Whistler* (Madeira Park, BC, Harbour Publishing, 1997); Howard M. Stewart, "Five Easy Pieces on the Strait of Georgia: Reflections on the Historical Geography of the North Salish Sea", (PhD diss., University of British Columbia, 2014).

¹⁹⁷ Stewart, "Five Easy Pieces," 372; Armitage, *Around the Sound.*; J.I. Little, "Vancouver's Playground: Leisure and Sociability on Bowen Island, 1902-57," *BC Studies* 171 (Autumn, 2011): 37-68.

However by the 1970s the sound was increasingly perceived as a playground under threat. For most of the 20th century Howe Sound's marine environment had been actively enrolled within the industrial activity in the fjord, providing a convenient and seemingly bottomless "sink" for the disposal of industrial wastes.¹⁹⁸ In the late 1960s, the environmental impacts of almost a half a century's worth of industrial pollution were becoming more apparent. By 1969, industrial pollution—coupled with overfishing—had severely depleted Howe Sound's salmon and herring populations. The federal government responded by placing a ban on all commercial salmon fishing in the sound in 1969; while, sports fishing remained open.¹⁹⁹ Several years later, in 1973, SPEC called on the provincial government to designate Howe Sound a recreational area and protect it from further industrial development.²⁰⁰ SPEC's vision never became official policy, but it did reflect the growing polarisation of environmental politics within the region, and the following decades were marked by conflict over industrial and recreational visions of Howe Sound. Over the course of the 1970s and 1980s several prominent proposed industrial developments—a 252 million tons copper mine on Gambier Island and DOME petroleum's LNG plant at Britannia beach—were abandoned in large part due to sustained public outcry and opposition from environmentalists.²⁰¹

While the 1970s and 80s saw almost no new industrial development within Howe Sound, the fjord's older, established industries continued to impact upon the marine environment, drawing the attention—and fines—of governmental agencies as well as the ire of

¹⁹⁸ For more on the concept of industrial waste "sinks" see Joel Tarr, *The Search for the Ultimate Sink: Urban Pollution in Historical Perspective* (Akron: University of Akron Press, 1996).

¹⁹⁹ Armitage, *Around the Sound*, 202.

²⁰⁰ Stewart, *Five Easy Pieces*, 256.

²⁰¹ Armitage, *Around the Sound*, 200-202. Doreen M. Wakely, "Howe Sound Must be Protected," *Vancouver Sun*, 28 January, 1980, A5. "Groups Fight Howe Sound Possibility," *The Province*, 9 November 1979, A10; "Dome Sells Britannia", *Vancouver Sun*, 21 September, 1984, D6.

environmentalists and recreationalists. In 1981, the federal government fined the pulp mill at Port Mellon \$25,000 after it discharged 40,000 gallons of toxic black liquor into the sound.²⁰² And eight years later, in 1989, the Department of Fisheries and Oceans banned all commercial crab fishing in the Sound after high levels of the toxic dioxins and furans were identified in the marine environment around the pulp mills at Port Mellon and Woodfibre.²⁰³ By the early 1990s the fjord was widely considered one of “the most controversial waterways in B.C.”²⁰⁴

It was in this context that Bob Turner, a scientist with the Canadian Geological Society, and Colin Leavings, a researcher with the Department of Fisheries and Oceans, organised the “Howe Sound Environmental Workshop and Public Meetings”. Held over five weekends in October and November of 1991, this series sought to “develop a network of people working on Howe Sound, to encourage collaboration on interdisciplinary research, and to present scientific information to the public and to generate public discussion of the Howe Sound environment.”²⁰⁵ The series began with a workshop. On a cold and wet weekend in early October about 70 federal and provincial researchers, academics and environmental consultants working on a variety of environmental issues in the sound gathered on Bowen Island to discuss “the physical and biological processes within the watershed, and the impact of human activity on the longterm health of the ecosystem.”²⁰⁶ The workshop lasted three days, and included over twenty papers covering a range of issues from the geophysical history of the fjord, regional weather and climate

²⁰² Keeling, “Effluent Society,” 263.

²⁰³ Karen Gram, “Pollution of Howe Sound Stirs Calls for Fines, Cleanup,” *Vancouver Sun*, May 3, 1989, NS1; Western Canada Wilderness Committee, *STOP the Killing of Howe Sound NOW!* (Western Canada Wilderness Committee, Vancouver, 1989).

²⁰⁴ Tony Wanless and Will Wigle, “The Dirty Dozen,” *The Province*, 22 April, 1990: 30.

²⁰⁵ Alan, J. Ferguson and Michael W. McPhee, *Howe Sound Watershed Environmental Science Workshop and Public Meeting: Summary of Proceedings* (Vancouver B.C., Regional Consulting Ltd, 1992), 1.

²⁰⁶ C.D. Levings, R.B. Turner, and B. Rickets eds. *Proceedings of the Howe Sound Environmental Science Workshop*, Canadian Technical Report of Fisheries and Aquatic Sciences No. 1879 (DFO, West Vancouver, 1992), vi.

to estuary management processes and dioxin distribution in subtitle sediments. The second day of the workshop opened with a boat tour of Howe Sound, and later that evening Bill Rees of the School of Community and Regional Development at UBC, delivered the keynote presentation on “Understanding Sustainable Development.”²⁰⁷

Over the course of the weekend attendees attempted to produce a scientific account of the region’s environmental health, its natural history, and what its future might look like. The Britannia mine was well represented within these discussions. Karen Drysdale of the University of Victoria and Tom Pedersen of the University of British Columbia, presented a paper on the environmental impacts of the mine’s tailings, while Bernie Claus a researcher with Environment Canada discussed flooding hazards at the mine. Consultants from the BCAMD Task Force presented their recent study on the assessment and long-term control of the AMD issue at the abandoned mine.²⁰⁸

The Bowen Island workshop was followed by five public meetings, the guiding question of each— “How Sound is the Howe Sound?” Taking place in Squamish, Whistler, Gibsons, West Vancouver, and Vancouver, each public meeting consisted of an Information Fair during the day, followed by a scientific Panel Discussion in the evening. Members of the public were

²⁰⁷ Levings et al., *Proceedings of the Howe Sound Environmental Science Workshop*.

²⁰⁸ The provincial government had established the BCAMD Task Force in 1987 amid growing concern over the potential long-term financial and environmental liabilities associated with the province’s “acid generating time bombs.” Housed within the B.C. Ministry of Mines, Task Force’s goal was “to find economic and effective solutions for the prediction, prevention, treatment, and control of acid mine drainage, and to transfer the knowledge to mining companies, consultants, and regulatory agencies so that the province’s mineral resources are developed in an environmentally sound manner.” In 1987 the task force initiated their ambitious research program, examining potential remediation and treatment methods at some of the worst AMD cases in the Province. In 1990 they turned their attention to the Britannia Mine. See British Columbia Acid Mine Drainage Task Force, Annual Report 1989-90 (Victoria, 1990). For the BCAMD Task Forces report on the Britannia mine see Steffen Robertson and Kirsten (B.C.) Inc., *Evaluation of ARD from Britannia Mine and the Options for Long Term Remediation of the Impact on Howe Sound*, prepared for B.C. Acid Mine Drainage Task Force, Ministry of Energy, Mines and Petroleum Resources, (Victoria, November 1991).

invited to raise questions and add their own knowledge of the Sound's environment to the discussion.²⁰⁹ The organisers of the Environmental Workshop and Public Meeting did not attempt to develop solutions for the management of pollution and environmental contamination in Howe Sound or at Britannia: rather, the goal was to establish a scientific basis for imagining a sustainable future for the Howe Sound watershed. For the organisers, the main aim of the Howe Sound workshop and public meetings was to "...gather information for the basis of a holistic and interdisciplinary approach to decision making. The major question is how to manage the Sound in a sustainable fashion."²¹⁰

A year later, in 1992, this same question was the motivating force behind the Howe Sound Round Table (HSRT). Organised by the Save Howe Sound Society, a local community-based environmental organisation, the HSRT brought together community members, representatives of First Nations, environmental groups as well as representatives from all levels of government to discuss environmental and development issues within Howe Sound. In 1996, after several years of research and consultation in communities around the watershed, the HSRT published its 88 page report *Howe Sound 20/20, Issues and Initiatives in Growth and Sustainability for Howe Sound: A Watershed Perspective*.²¹¹

Like the Howe Sound Workshop and Public Meetings, *Howe Sound 20/20* called for a watershed wide perspective of the problems facing Howe Sound. While the report built on and echoed many of the ideas aired at the Howe Sound Watershed Workshop and Public Meetings, it advanced a broader vision of a sustainable future for the region. In addition to discussing

²⁰⁹ "Public Input Sought," *The Sunshine Coast News*, October 21, 1991, 1; Ferguson and McPhee, *Howe Sound Watershed Environmental Science Workshop and Public Meeting*.

²¹⁰ Ferguson and McPhee, *Howe Sound Watershed Environmental Science Workshop and Public Meeting*, 78.

²¹¹ Howe Sound Round Table. *Howe Sound 20/20. Issues and Initiatives in Growth and Sustainability for Howe Sound: A Watershed-Wide Perspective*. (Howe Sound Round Table, February 1996).

industrial pollution and contamination and degradation of the fjord's physical environment, the report explored economic and social aspects of sustainability, identifying regional deindustrialisation and loss of economic bases, outmigration and erosion of community identity as some of the most pressing issues facing communities within the watershed. Again, the Britannia mine featured prominently within these discussions. While it was just one of many problems within the Sound, the abandoned mine and company was seen to embody the broad range of issues facing the watershed as a whole. The “the Britannia Conundrum”—as the report referred to it—was a synecdoche for the region's environmental, economic, and social problems.²¹²

Within both the Howe Sound Environmental Workshop and Public Meetings and with the *Howe Sound 20/20* report, the Britannia mine's AMD issues were situated within the broader geographical, historical, and economic context of the Howe Sound region. While these discussions and ideas did little to precipitate change in the province's approach to pollution control and environmental governance at the abandoned mine, they did speak to understandings of Britannia's long-term clean-up, defining the mine's remediation in the context of the imagined future geography and economy of Howe Sound—a region transitioning slowly from a resource economy to one based on outdoor recreation and tourism. While the mine was just one of many issues, it was considered by many to epitomise the challenges faced by the entire region. It represented a long-term and ongoing threat to the environment and economy of Howe Sound, and as such its remediation was seen as an essential component of both the region's sustainable future. How this remediation would be achieved, and this future secured, remained to be decided.

²¹² Ibid, 13.

In November 1993 B.C. Environment issued a new pollution abatement order against CBE. In an unusual move Moe Sihota, the Minister for Environment in the NDP government, announced the new pollution abatement order at a press conference at Britannia Beach. Standing on the banks of Britannia Creek, Sihota declared to the reporters gathered that this new order was “a signal to industrial polluters throughout British Columbia that there's a new attitude in this government... We expect them to behave in an environmentally responsible way.”²¹³ At the same press conference, Sihota announced that the province would spend \$250,000 to replace the outfall pipe at the mine. The pipe had been damaged two years earlier during a particularly devastating flood that ploughed through Britannia Beach. Since then, mine effluent had flowed directly from the mine’s underground workings into Britannia Creek and the surface waters of Howe Sound. Repairing the pipe was an interim, “band-aid solution” to the problems at the mine; the new pollution abatement order, provincial authorities hoped, would precipitate a more substantial and long-term fix in line with contemporary environmental standards.

However, these renewed enforcement efforts also reflected the province’s fears that CBE was looking for an ‘exit strategy’. In April 1990, Tim Drummond, a business man based in West Vancouver, had bought a controlling stake in CBE and proceeded immediately to sell off large portions of the company’s Britannia property. In May 1990, Drummond sold 1000 acres at Furry Creek to Tanac Developments Canada Ltd, a Japanese company with plans to develop a golf course and luxury apartments at the site.²¹⁴ The following year Drummond established and began selling shares in a new venture: Britannia Creek Golf Course Ltd (BCGC). Once BCGC’s share

²¹³ Glen Bohn, “Acid-water Spewing Pipe Will be Fixed”, *Vancouver Sun*, 27 November, 1993, B4; Greenwood Collection, box 20: Pollution Control 1 of 2, folder Waste Management Permit, B.C. Ministry of Environment, Lands, and Parks, *Sihota Announces Action on Britannia Beach Pollution*, November 26, 1993. The 15mg/l permitted in the previous orders was 100 times greater than the current standards.

²¹⁴ Mike Mooney, “Copper Beach Changes Hands,” *Squamish Times*, 18 May, 1990: 1.

sale was complete, Drummond intended to buy 650 acres of land at Britannia Beach from CBE and develop his own golf course and resort. In light of these developments, Britannia Beach residents were afraid they would lose their homes.²¹⁵ Provincial authorities feared that Drummond was attempting to unload all of CBE's valuable assets at Britannia. The transfer of property to BCGC would leave CBE without the means to cover its environmental obligations, and the province could "be left holding the bag."²¹⁶

However, Drummond's manoeuvres quickly turned sour. In mid-1991, CBE had entered an agreement to sell their property at Britannia Beach to a business group from Singapore—400091 British Columbia Ltd. (400091 Ltd.)—interested in Drummond's golf development. Before finalising the deal 400091 Ltd. had loaned to Drummond \$6 million. The loan, secured with a mortgage on CBE's assets at Britannia Beach, was to be used to pay off CBE's previous investors. However, after conducting its due diligence and uncovering the extensive environmental liabilities associated with the site, 400091 Ltd. withdrew from the deal. When Drummond was unable to make payments on the loan they launched foreclosure proceedings against CBE, and in late 1991 400091 Ltd. received a court order for the sale of the CBE's mortgaged assets at Britannia.²¹⁷ Through out the 1990s CBE attempted to sell the property, and while several parties— primarily interested in the site for its real estate development potential—

²¹⁵ Peter Busch, "Copper Beach Estates Halted in Preparations for Rumoured Golf Course Site," *Squamish Times*, 7 May, 1991:13-15; Peter Busch, "Golf course developer sells shares before plan approved", *Vancouver Sun*, 11 October, 1991; Peter Busch, "Mine's Deadly Legacy in Limbo", *Squamish Times*, 15 October, 1991: 1-3; Peter Busch, "Potential for Orphan Site Looms," *Squamish Times*, 15 October, 1991: 19.

²¹⁶ Memorandum from Raymond Rob, Waste Management Officer, Ministry of Environment, B.C. to H.Y. Wong, Regional Environmental Protection Manager, *Re: Revision of Copper Beach Order* (November 8, 1991), quoted in CEC, *Factual Record BC Mining*, 94; See also Sierra Legal Defence Fund, *Digging Up Trouble: The Legacy of Mining in British Columbia*, (Vancouver, Sierra Legal Defence Fund, 1998), 26.

²¹⁷ Peter Busch, "Copper Beach Faces Foreclosure," *Squamish Times*, 22 October, 1991: A3; Shari Bishop, "Britannia Faces new Ownership," *Squamish Times*, 1 September, 1992: 1; CEC, *Factual Record BC Mining*, 94-97.

made preliminary offers, due to the uncertain environmental liabilities associated with the site no buyers could be found. As one Britannia Beach resident put it, “Buyers are terrified of the potential costs.”²¹⁸

CBE’s financial difficulties continued. In the summer of 1994 a provincial court, at the request of 400091 Ltd., appointed a receiver-manager— Cooper and Lyland Ltd— to oversee the company's interests at Britannia Beach. Cooper and Lyland Ltd, indemnified from all environmental liabilities at Britannia, took over the day-to-day management of the site, collecting rents and maintaining buildings. Stripping CBE of its primary source of income— rents from Britannia residents— and control of the site, the appointment of a receiver-manager left CBE in a difficult position with regards to their obligations under the 1993 pollution abatement order. Yet, as legal counsel for the province clarified, CBE was “...not bankrupt or in receivership, but simply... the court had appointed a receiver/manager to look after the property. CBE still owns the property, can still be ordered by the Ministry... and could be charged/prosecuted.” CBE was still solely responsible for the remediation at Britannia.²¹⁹

Under the 1993 order CBE was required to develop and submit to the province plans for the long-term treatment of all mine drainage at Britannia. The plans were to include a description of proposed treatment, the nature (quality and quantity) of the mine’s discharge as well as estimates of costs and a schedule. The plans were due by July 31 1994. CBE was also required to submit descriptions of the scope, terms of reference and schedule for this plan along with audited financial statements by December 31 1993 as well as apply for relevant effluent

²¹⁸ Glenn Bohn, “Metals Pour Into Howe Sound From Old Mine,” *Vancouver Sun*, 31 May, 1997: A16.

²¹⁹ CEC, *Factual Record BC Mining*, 97.

discharge permits.²²⁰ Once again, CBE was almost immediately in violation of the order. By January 1994, the company had successfully submitted an initial description of the scope, terms of reference and schedule to the provincial authorities but failed to meet the other requirements.²²¹ It would not be until 1999 that CBE would cobble together a scheme for the treatment of Britannia's AMD problem.

In the meantime, provincial and federal authorities continued to study the site. In the early 1990s the B.C. Department of Environment had formed a Technical Advisory Committee (TAC) to help coordinate federal and provincial research efforts at Britannia. The make-up of the TAC changed over time, but generally the B.C. Ministry of Environment (MOE), the B.C. Ministry of Energy, Mines and Petroleum Resources, Environment Canada, Department of Fisheries and Oceans Canada, Natural Resources Canada each maintained representatives on the committee.²²²

In the early 1990s the TAC focused its energy on developing technical "solutions." for the problems at Britannia. From a technical perspective the Britannia mine presented a particularly difficult problem. The sheer size of the mine area, and the extent of the underground workings meant that capping the mine openings to keep precipitation out and contain AMD was not an option. The only practical solution was to collect and treat the mine effluent. Yet this was

²²⁰ Greenwood Collection, box 20 Pollution Control 1 of 2, folder Pollution Control Permit AE- 2194, R.H Robb, Assistant Regional Waste Manager, to Copper Beach Estates Ltd., December 15 1993. See also British Columbia, Ministry of Environment, "Reasons of Decision for Issuance of Remediation Order OE-16097, Effluent Discharge Permit PE-12840 and Refuse Discharge Permit PR-15938" 8 September 1999; CEC, *Factual Record BC Mining*, 95; Monica Danon-Schaffer, "Investigation, Remediation and Cost Allocation of Contaminants from the Britannia Mine in British Columbia: A Case Study," *Environmental Forensics* 3 (2002): 15-25.

²²¹ Greenwood Collection, box 20 Pollution Control 1 of 2, folder Min. of Environment, R.H. Robb, Assistant Regional Waste Manager, to Tim Drummond, Copper Beach Estates Ltd., February 10, 1994.

²²² Barry Azevedo and Gerry O'Hara, "A Review of the Management of the Britannia Mine Remediation Project: Counting the Pennies" (paper presented at the B.C. Mine Reclamation Symposium, Squamish, September 17-20, 2007): 1-9, see also William A. Price, T. Schwab, and N. Hutt. *A Reconnaissance Study of Acid Mine Drainage at the Britannia Mine*. (Smithers, B.C.: BC Ministry of Energy, Mines and Petroleum Resources, 1995), 18.

complicated further still by the seasonal and annual variations in precipitation levels and thus drainage levels. In March 1998, EC and BC Environment commissioned H.A. Simons Ltd to prepare a pre-feasibility study for a treatment plant at Britannia. Reviewing all existing studies and treatment options, the consultants concluded that “on the basis of the capital costs, operating costs and operating complexity,” high density sludge (HSD) treatment was the best option for Britannia. The technology was far from new; indeed, it was the “conventional” method for treating AMD. HSD facilities had operated successfully at other mines in the province for several years. At Britannia, Anaconda and consultants working for the BC AMD Task Force had already explored similar treatment techniques as far back as 1974 and 1991, respectively, and in 1997 Environment Canada and engineers with Cominco Ltd had successfully tested bench scale HDS treatment process at the abandoned mine.²²³ The treatment process involved mixing lime with mine effluent. The alkaline lime and mill ash neutralised the acidic mine effluent and caused the copper and zinc to precipitate out of solution, producing a clean effluent as well as large amounts of high density heavy metal laden sludge. At Britannia this sludge would be hauled up to the open pits at the 2200 level. H.A. Simons estimated that construction of the treatment plant would cost \$4.3 million, with annual operating coming in at \$0.78 million.²²⁴

By the late 1990s, residents of Britannia Beach and the BCMM, having witnessed federal and provincial scientists and environmental consultants monitor, sample, and study the mine’s AMD for almost twenty-five years, were becoming increasingly doubtful that any solution to the

²²³ Cominco Engineering Services Ltd and Environment Canada, *Pilot Scale Testing of the High Density Sludge Process - Britannia Mine Acid Drainage Treatment*, (North Vancouver, B.C., August 1997).

²²⁴ HA Simons Ltd *Treatment of Acid Drainage at the Anaconda-Britannia Mine, Britannia Beach, BC*, (Vancouver: HA Simons Ltd, 1998).

environmental problems at the abandoned mine would be found.²²⁵ In the mid-1990s the BCMM, distrustful of CBE, began calling on the provincial government to take over ownership of the entire site.²²⁶ Others were also calling on both levels of government to step in. The provincial and federal authorities were facing mounting public scrutiny and criticism for the ways they were handling the site's problems. Indeed, for many following developments at the mine, the NDP government's promise of a new, tougher approach to environmental protection had failed to materialise. CBE was consistently in violation of both the 1981 and 1993 pollution abatement orders, and despite their extensive environmental monitoring program and pilot treatment studies the federal and provincial authorities had effected no material improvement in the environment at Britannia.

In April 1998, Ted Nebbeling, Liberal MLA for the West Vancouver-Sea-to-Sky riding—the riding in which Britannia is located—berating the NDP government's environmental record at Britannia, denounced the mine as “the most shameful area that this province is responsible for.”²²⁷ When later that same month, the Sierra Legal Defence Fund released its sixty-six page report, *Digging Up Trouble: The Legacy of Mining in British Columbia*, the Britannia mine was singled out as one of the province's most egregious examples of the long-term environmental degradation wrought by mining and the state's failure to deal with it. Britannia was, the report noted, one of B.C.'s worst “perpetual pollution machines.”²²⁸

²²⁵ Glenn Bohn, “Metals Pour Into Howe Sound from Old Mine,” *Vancouver Sun*, 31 May, 1997:A16.

²²⁶ BMMA, Historical Files and Archives, file Prelude to the Britannia Opportunity: contains a series of letters from the BCMM to various provincial ministries and agencies detailing the museums position.

²²⁷ British Columbia, Official Report of Debates of the Legislative Assembly (Hansard), 36th Parl, 3rd. Sess, Vol 8, No 19 (April 17, 1998), T. Nebbeling, 6962.

²²⁸ Sierra Legal Defence Fund, *Digging up Trouble*.

The following month the SLDF had the federal government in their crosshairs over the same issue. In June 1998, the SLDF, representing the Sierra Club of British Columbia, the Environmental Mining Council of British Columbia, and the Taku Wilderness Association, submitted a complaint to the Commission for Environmental Cooperation.²²⁹ Citing dramatic cuts to enforcement staff and resources at Environment Canada, the SLDF alleged that Canada was failing to enforce its environmental laws and regulations at abandoned, acid generating mines in British Columbia. While twenty-five mines were listed as examples of the state's failure to protect the environment, the submission focused explicitly on three: the Tulsequah Chief mine in the Taku watershed in Northwestern B.C., the Mount Washington Mine located on Vancouver Island, and the Britannia Mine. All three mines were, the submission noted, in violation of section 36(3) of the *Fisheries Act*, which prohibits the release of "deleterious substances" into waters frequented by fish.²³⁰ Speaking to media about the submission, the Sierra League Defence Fund's counsel, David Boyd, charged that "Canada is becoming an environmental outlaw whose actions betray our politicians' bogus rhetoric about conservation."²³¹ The submission, it was hoped, would draw international attention to Canada and B.C.'s failure to enforce their own environmental laws.

²²⁹ The Commission for Environmental Cooperation (CEC) was a tri-national organisation established under the North American Agreement on Environmental Cooperation (NAAEC) in 1994 as part of NAFTA. For more details about the work of the CEC see <http://www.cec.org/about-us/about-cec>. All published documents pertaining to the SLDF submission (BC Mining SEM-98-004) can be found at <http://www.cec.org/sem-submissions/bc-mining>.

²³⁰ Sierra League Defence Fund, *The Government of Canada's Failure to Enforce the Fisheries Act Against Mining Companies in British Columbia: A Submission to the Commission on Environmental Cooperation Pursuant to Article 14 of the North American Agreement on Environmental Cooperation, BC Mining, SEM/98-004/06/RSP* (June 1998), available at www.cec.org/sites/default/files/submissions/1995_2000/7960_98-4-sub-e.pdf. All published documents pertaining to the SLDF submission (BC Mining SEM-98-004) can be found at <http://www.cec.org/sem-submissions/bc-mining>. "Eco-fund fingers Ottawa for mine woes", *Province*, Jul 3, 1998, A18.

²³¹ "Eco-fund fingers Ottawa for Mine Woes," *Province*, 3 July, 1998: A18.

The federal government's official response, which came in September 1999, was predictably dismissive of the SLDF's allegations, describing them as unfounded and based on a narrow understanding of the state's enforcement efforts. The federal government argued that "in the case of mining operations extensive monitoring, research and other data gathering activities over the past fifteen years have led to a better understanding of the acid rock generation problems."²³² With regards to the Britannia mine, specifically, the federal government argued that the extensive environmental assessments and technical studies carried out by provincial and federal researchers at the site since the early 1980s had precipitated that would address the long term pollution at the site.²³³

Towards a Solution: The Dump Plan

Indeed, in the fourteen months that had passed between the SLDF's initial submission to the CEC and the federal government's official response, significant progress had been made toward a concrete remediation plan for the abandoned mine. True to the federal governments claims, the technical studies carried out in the mid-1990s had provided workable treatment solutions and generated significant momentum at Britannia; although, the question of who would pay for the remediation of the site remained a significant issue. CBE had been in receivership since 1993 and was in no position to fund the construction and operation of a treatment system in perpetuity.

In the summer of 1998, Brent Leigh, a member of the Squamish—Lillooet Regional District, had reached out to the Fraser Basin Council (FBC), a non-profit charitable organisation

²³² CEC, *BC Mining Party Response*, 12.

²³³ CEC eventually dismissed the allegations in relation to the Tulsequah Chief Mine and the Mount Washington Mine and focused solely on the federal government's record at the Britannia Mine.

established in 1997 to “advance sustainability in the Fraser Basin and across B.C.”²³⁴ Leigh, a director with the FBC, hoped the council could help facilitate the development of a solution to the seemingly intransigent problems at Britannia.²³⁵ In August, Leigh and the FBC convened a meeting with CBE, residents of Britannia beach, and representatives of BCM, BCE, Environment Canada, and the DFO to discuss the remediation options. Britannia Beach residents thoughts on the issue were mixed. Although most regarded remediation as long overdue and urgently needed, others spoke out against any clean-up of the mine’s pollution problems, fearing that remediation was just the prelude to redevelopment of Britannia Beach that would inevitably lead to the eviction and displacement of the Britannia Beach residents, all of whom rented their homes and lots.²³⁶ By spring 1999, CBE had come up with a scheme to address Britannia Beach resident’s concerns and solve their own financial predicament.

CBE’s proposal consisted of three parts: environmental, economic, and social solutions.²³⁷ Working from plans developed by HA Simons Ltd. a year earlier, CBE’s “environmental solution” would involve the construction of a HDS water treatment plant at Britannia Beach to collect and treat the mine’s AMD. The “economic” phase of the plan would see CBE construct and operate a commercial landfill at the mine. Finally, responding to Britannia Beach resident’s longstanding concerns over security of tenure, CBE promised to

²³⁴ <http://www.fraserbasin.bc.ca>, accessed 16 March, 2016.

²³⁵ Bridgette Peterson, “Action Plan to Fix Britannia Mine Pollution Problem Gets Mixed Reviews From Residents,” *Squamish Chief*, 18 August, 1998: 4; Larry Pynn, “Is this the way to Hash Out Problems?” *Vancouver Sun*, 17 February, 1999: F4.

²³⁶ “Action Plan to Fix Britannia Mine Pollution Problem Gets Mixed Reviews From Residents,” *Squamish Chief*, August 18, 1998: 4.

²³⁷ Fraser Basin Council (FCB), *Britannia Mine Reclamation and Remediation Proposal Report on Public Consultation*, (Vancouver B.C.: Fraser Basin Council, June 1999).

transfer all residential land at Britannia Beach to a government-administered housing corporation—the “social” solution.

CBE presented their plans to the public in glossy brochure style literature in March 1999. The proposal was slim on the technical details, but CBE did explain that the water treatment plant would be constructed adjacent to the BCMM at Britannia Beach and would operate continuously, year round. The proposed landfill was to be located at the Jane Basin glory holes, near the Mount Sheer site, several kilometres up Britannia mountain. Operating for eight months a year for twenty-five years, the landfill would receive contaminated soil from all over B.C. This waste would be trucked to the landfill, mixed with sludge from the WTP, and tipped into mine’s old glory holes. According to CBE the landfill would solve two problems: first, the contaminated soil and sludge would fill Jane Basin glory holes decreasing the infiltration of rain and snow melt through the mine and reducing AMD generation; and second, the tipping fees would not only help finance the construction of the WTP but would also provide an “accumulated fund sufficient to finance the ongoing operation and maintenance of the ARD treatment plant in perpetuity.”²³⁸

On March 15th, CBE submitted applications for the relevant permits to the provincial authorities. Members of the public had until June 6th to submit comments on the proposal to the provincial authorities. In the meantime, the FBC agreed to organise and facilitate a public consultation process, and over the course of April and May the council chaired three public information sessions, a regional public forum, and presentations to the municipal councils at Pemberton, Whistler, Squamish, Lions Bay, and West Vancouver. Representatives of Environment Canada, BCE, the DFO, and H.A. Simons Ltd—CBE’s consultants for the

²³⁸ See City of Vancouver Archives (CVA) SPEC Fonds, MSS 1556, Box 730-C-6 folder 7: H.A. Simons, “Reclamation and Remediation Permit Application For Britannia Mine”; FBC, *Britannia Mine Reclamation*, appendix B.

project— were on hand throughout the public review process to answer technical questions and provide background information. FCB released its report on the public consultation process in mid June.²³⁹

CBE's proposal proved to be a contentious one. Residents, local politicians and environmentalists participating in the consultation process supported the overall thrust of the proposal and spoke in favour of its environmental and social aspects, but most had grave reservations regarding the landfill. For many, CBE's proposal to convert the abandoned mine into a dump for contaminated soil had the air of a quick cash grab.²⁴⁰ While several attending the public meetings sympathised with the difficult financial and legal circumstances in which CBE had found itself, the consultation process also revealed a general suspicion regarding CBE and Tim Drummond. Indeed, the company's and Drummond's environmental track record at Britannia was dismal. Since 1981, CBE had consistently failed to carry out even the most modest environmental protection measures and were a regular on the province's annual worst polluters list.²⁴¹ In 1994 Drummond had been fined \$10,000 for illegally dumping sewage at Britannia.²⁴² There was a general sense that despite the spin CBE's plan's primary objective was to minimise

²³⁹ FCB, *Britannia Mine Reclamation*.

²⁴⁰ Ibid.; Ralph Fulber, "Britannia Proposal More Profiteering," *Squamish Chief*, 11 May, 1999:12.

²⁴¹ In the summer of 1999 CBE was yet again included B.C. Environment "Environmental Protection Noncompliance Report." It as the company's eleventh appearance in the bi-annual report.

²⁴² "Major Landowner Fined \$10,000 for Illegal Sewage Dumping," *Vancouver Sun*, 14 December, 1994: B6. The in August 1999, in the middle of the permit review process, Drummond was arrested and charged with fraud and theft. Drummond, it was alleged, had misappropriated \$44,625 from the West Vancouver boy scouts while helping run their 1996 christmas tree sale. In 2001 Drummond was found guilty and given a one year conditional-sentence and ordered to pay back the West Vancouver boy scouts. For details see Latt Pynn, "Contaminated-soil Industry Still Largely Hidden from Public View", *Vancouver Sun*, 7 August, 1999: B4; Glen Bohn, "Pollution permit 'outrageous,'" *Vancouver Sun*, 26 August, 1999: B1; In 2001 Drummond was found guilty and given a one year conditional-sentence and ordered to pay back the West Van boy scouts: Glenn Bohn, "Man Who Stole from Scouts Spared Jail", *Vancouver Sun*, 3 November, 2001: B1.

costs and generate profit for the company.²⁴³ As one Britannia Beach resident observed the company's plan amounted to "CBE Ltd. asking the citizens of this province to give them a license to print money so that they can pay for a clean up...long over due."²⁴⁴ Others doubted the financial and practical viability of a contaminated waste dump at the Jane Basin glory holes and questioned whether the dump could ever be able to finance its own operation let alone a water treatment plant in perpetuity.²⁴⁵ If CBE's plan failed, they asked, would the provincial government step in?

Yet, for many of those attending the public meetings CBE's proposal's lack of technical details was the most significant source of frustration. There was widespread concern that not enough research had been conducted and that plan was being rushed through.²⁴⁶ Many opponents were concerned that the plan had not triggered a federal or provincial environmental assessment. Local residents wanted to know the source, quantity and nature of the contaminated soil to be disposed of at Jane Basin. The overriding question was "would it be safe?" Indeed, most reservations regarding CBE's plan emerged from a general anxiety over the uncertain environmental and health risks associated with the landfill. Britannia Beach and Furry Creek residents were particularly concerned about the potential for contaminants from the mine and

²⁴³ See FBC, *Britannia Mine Reclamation*, 29-30; Brian Fotheringham, "Mine Mess May Go: Company Submits Plan to Address Britannia Pollution," *North Shore News*, 23 May, 1999; City of Vancouver Archives (CVA): MSS 1556 SPEC Fonds, Box 730 C6 file 7, John Whistler (SPEC) to Fraser Basin Council- RE: Britannia Mine Reclamation and Remediation Proposal June 6th, 1999; Greenwood Collection, box 76: Environment_Mine General, file Mount Sheer Permits, Ralph Fulber to Doreen Wright, FBC, 13 April, 1999; Richard Moore, letter to the editor, *Squamish Chief*, 28 September, 1999: 11.

²⁴⁴ Ralph Fulber, "Britannia Proposal More Profiteering," *Squamish Chief*, 11 May, 1999:12. Richard Moore, letter to the editor, *Squamish Chief*, 28 September, 1999: 11.

²⁴⁵ FBC, *Britannia Mine Reclamation*, 22-23.

²⁴⁶ FBC, *Britannia Mine Reclamation*, 27; see also CVA: MSS 1556 SPEC Fonds, Box 730 C6 file 7, Environmental Mining Council of BC to Lower Mainland Mine Development Review Committee, RE: Britannia Mine Reclamation and Remediation Permit Application, May 25th, 1999.

landfill to leach into their drinking water.²⁴⁷ Several miles south along the Sea-to-Sky highway, residents from West Vancouver and Lions Bay voiced concerns over the potential hazards associated with transporting “toxic waste” via truck and the effects that the increased truck traffic would have on highway and their communities.²⁴⁸

Others, however, aired their opposition in terms of what the dump would mean for the future of Britannia Beach and Howe Sound. While Britannia Beach residents were eager to move forward with the CBE’s “social solution”, they were concerned that the company’s plan would turn their town into “the toxic waste capital of B.C.”²⁴⁹ The contaminated soil dump would only compound issues at Britannia Beach, adding to the site’s toxic legacy and tarnishing the region’s reputation. As one Britannia Beach resident noted, “the Howe Sound corridor leading up to Whistler should be recognised for its obvious tourism and film industry potential, not for caravans of trucks carrying waste material...”²⁵⁰ Several submissions to the public meeting expressed similar criticisms, with one opponent noting, “I simply would ask that in considering this proposal that you not lose sight of the bigger picture. This is a future eco-tourism area...it should remain a place people of the area can go to get away from the city.”²⁵¹

Over the course of the summer, officials with BC Environment, BC Mines, and Environment Canada, and the DFO reviewed CBE’s proposal. and expressed interest. Early on in the public consultation period Environment Canada had publicly backed the scheme, suggesting

²⁴⁷ FBC, *Britannia Mine Reclamation*, 18; Darren Gallagher, “World-Class Pollution at Britannia, says expert,” *Squamish Chief*, 11 May, 1999: 5.

²⁴⁸ FBC, *Britannia Mine Reclamation*, 19-20; Darren Gallagher, “MLA Against Britannia Plan,” *Squamish Chief*, 18 May, 1999: 1.

²⁴⁹ Greenwood Collection, box 76: Environment_Mine General, folder Mount Sheer Permits, Mike Mason to Ted Hall, Regional Manager, BC Ministry of Energy and Mines, 16 April, 1999.

²⁵⁰ Ibid.

²⁵¹ FBC, *Britannia Mine Reclamation*, 26.

it was both “reasonable and workable.”²⁵² Provincial officials—who were, as one B.C. Environment official put it, “jumping up and down saying go for it! It’ll solve a huge problem”²⁵³—were also on board. By August 20, B.C. Environment had prepared and circulated draft remediation orders and waste discharge permits based on CBE’s proposal for public review. Members of the public were given just ten days in which to submit comments on the draft orders and permits, and on September 8th the B.C. Environment had issued CBE with a new pollution abatement order, an effluent discharge permit, and waste discharge permit, all based on CBE’s dump plan.

The new remediation order replaced both the 1981 and 1993 orders, and directed CBE to construct a water treatment plant by no later than August 31, 2000. The effluent and waste discharge permits allowed CBE to operate their proposed contaminated-soil landfill at the Jane Basin glory holes. However, these permits were issued on the condition that water treatment plant would be up and running before any waste was accepted at the landfill. The permits also stipulated that a surcharge of \$6.75 per tonne of landfill material was to be paid into a fund held by the province to ensure the long-term operation of the WTP.²⁵⁴ Ray Robb, the Assistant Regional Waste Manager with the BC Ministry of Environment, assured the public that the new order and permits reflected the best understandings of the mine site and its AMD issues as well as the new regulatory environment. Responding to charges that the material to be dumped at the

²⁵² Larry Pynn, “Company Wants to Turn Britannia Mine into Dumping Site,” *Vancouver Sun*, 23 April, 1999: A6.

²⁵³ Darren Gallagher, “Britannia Permits Issued,” *Squamish Chief*, 14 September, 1999: 3.

²⁵⁴ Copies of the Pollution Abatement Order, Effluent Discharge Permit and Waste Discharge Permits are available in Greenwood Collection, box 76: Environment_Mine General, file Mount Sheer Permits. See also R.H. Robb, *Reasons of Decision for Issuance of Remediation Order OE-16097, Effluent Discharge Permit PE-12840 and Refuse Discharge Permit PR-15938*, British Columbia, Ministry of Environment, 8 September 1999. (hereafter *Reasons of Decision*). Larry Pynn, “Britannia Cleanup Gets Interim OK,” *Vancouver Sun*, 9 September, 1999: B1; Darren Gallagher, “Britannia Permits Issued,” *Squamish Chief*, 14 September, 1999: 3.

Jane Basin was toxic and signified another long term source of pollution in the area, Robb argued that these concern were over stated: the material to be dumped was not dangerous or special waste but would consist of soils with metal levels far lower than in Britannia's mine effluent. In addition, Robb noted, "discharge of this material will not be authorised until the extensive technical studies which are designed to ensure that the landfill will not pose a risk to the environment are completed and acceptable to both the Ministry of Environment and the Ministry of Mines."²⁵⁵ Robb also dismissed concerns regarding the transportation of the contaminated soil by truck as "an issue which falls outside the jurisdiction of the Ministry of Environment,"²⁵⁶ but he reassured the public that CBE had promised to work closely with the provincial Ministry of Transportation and Highways to develop alternate methods of transportation for the waste.

Such statements did little to assuage the concerns of those opposed to CBE's dump plan, and B.C.²⁵⁷ However, there would be little need for concern. By November 1999 CBE was already losing momentum. As part of the new pollution abatement order the company was required to submit a series of detailed hydrological, ecological, and engineering studies and plans to the BC Environment, the first of which were due by December 31, 1999. In November CBE requested an extension of this deadline. According to Robb, CBE's original financial backers had pulled out of the plan, and the company needed a little more time to track down new sources of

²⁵⁵ Ibid., 2.

²⁵⁶ Ibid.

²⁵⁷ Alan Young, "Waste Plan Poses Further Danger to Howe Sound," *Vancouver Sun*, 15 September, 1999: A17; Darren Gallagher, "Council Holds Back on Britannia," *Squamish Chief*, 19 October, 1999: A3; Darren Gallagher, "Furry Creek Appeals Britannia Plan," *Squamish Chief*, 2 November, 1999: 1.

finance.²⁵⁸ Satisfied that these delays wouldn't interfere with the August 31 2000 deadline for the construction of the water treatment plant, in early 2000 the BC Environment granted CBE additional time to complete the studies.²⁵⁹ However, by April the company had again failed to submit the required studies and was in serious default of the requirements of the 1999 pollution abatement order.²⁶⁰ CBE's financial difficulties continued through the summer and the August 31st deadline for the completion of the water treatment plant came and went. Construction of the plant had yet to begin. In early September B.C. Environment suspended the permits for the Jane Basin landfill.²⁶¹ While the 1999 pollution abatement order still stood, the dump plan was off the table.

Toward a Solution: Plan B

In September, Robb announced the province's intention to launch a legal investigation into CBE's failure to meet the August 31 deadline established in the 1999 pollution abatement order. At the same press conference Robb also assured the public that "we knew some time ago that Copper Beach was not going to be able to meet this date [Aug. 31, 2000]...Therefore we went to our Plan B."²⁶² The province's "Plan B" was a simple one: pursue the historic owners and operators of the Britannia Mine for the costs of remediation.

²⁵⁸ Glenn Bohn, "Britannia Dump for Metal Tainted Slag Can't Meet Deadline," *Vancouver Sun*, 18 November, 1999: B1. Darren Gallager, "Britannia Clean-Up Delayed," *Squamish Chief*, 23 November, 1999: A5.

²⁵⁹ R.H. Robb, Assistant Regional Waste Manager to Tim Drummond, CBE, January 7, 2000. Until May 2015 this document, along with a selection of other official reports, memos, and correspondence relating to the Britannia mine's remediation were freely available on the Ministry of Environment website. They have since been taken down and can only be accessed by contacting directly the Surrey office of the Ministry of Environment. The author has also maintained digital copies.

²⁶⁰ Glenn Bohn, "Province Presses for Cleanup of Old Britannia Mine Site," *Vancouver Sun*, 18 May, 2000: B1; R.H. Robb to Murray Rankin, Neo Tuytel, and Allen L. Cole, April 6, 2000. See footnote 108.

²⁶¹ R.H. Robb to Copper Beach Estates Ltd. and MT. Sheer Mine Reclamation Inc., September 1, 2000. See footnote 108.

²⁶² Nicole Bailey, "Investigation launched after firm misses mine clean-up deadline," *Vancouver Sun*, 1 September, 2000: B5.

B.C. Environment had first considered holding former owners and operators of the mine accountable for the site's environmental problems when drafting the pollution abatement order in 1993. At the time, difficulties in identifying the contemporary iterations of past owners and the limitations within the provincial Waste Management Act regarding retroactively applying liability had hindered these efforts.²⁶³ In the summer of 1993, B.C.'s NDP government amended the Waste Management Act to include provisions covering the management and remediation of contaminated sites: the Contaminated Sites Regulations (CSR). Although first introduced in 1993, the CSR did not come into force until April 1997. Under the CSR provincial authorities received wide-ranging powers to classify a site as a "high risk orphaned site" and name past and present owners and operators as "responsible parties." In late 1997, with these new powers in hand, BCE again set about identifying companies with links to Britannia.²⁶⁴ These initial investigations turned up three companies whose corporate histories could be traced back to the mine: CanZinco Ltd. (Canzinco), Arrowhead Metals, and Atlantic Rich- field Corporation (ARCO).

Writing to the three companies in May 1998, BCE notified them that each was being considered a "potentially responsible party" (PRP) for the pollution problems at the Britannia.²⁶⁵ The following November, BCE sat down with CanZinco, Arrowhead Metals, and ARCO to discuss this new status. The province pushed for an agreement between the three PRPs that would make it unnecessary for them to be included in any forthcoming clean-up orders. Yet, the companies bluntly denied any responsibility for the abandoned mine, and the meeting ended in

²⁶³ See CEC, *Factual Record*, 99.

²⁶⁴ *Ibid.*, 109.

²⁶⁵ *Ibid.*, 111.

stalemate.²⁶⁶ In early 1999, in light of CBE's proposed remediation plan and permit applications, the provincial authorities had suspended their discussions with the three PRPs. At this time, CBE's "dump plan" seemed to provide a workable solution, and as CBE was already willing to accept their status as a "responsibility party" it came with fewer legal headaches for the province. However, when by April 2000 it was clear that CBE was floundering, B.C. Environment revived their discussions with ARCO, Canzinc and Arrowhead.²⁶⁷

Over the summer of 2000, B.C. Environment solicited and received a number of submissions on "the technical components of the current order and the issue of responsibility," from three PRPs. In their submission, Canzinc alleged that the Province was itself a PRP, citing BCE's removal and replacement of the outfall pipe at Britannia Creek following the 1991 flood as the basis for their claim. ARCO, on the other hand, took aim at the federal government and argued that due to the nature of the supply contracts between Canada and the mine during World War II the federal government could be considered to have been the de facto "operator" of the mine, and thus should be regarded as PRP. ARCO also alleged that, fellow American industrial heavyweight, ALCOA was the successor to the Howe Sound Corporation and should also be included in all future discussions. In October 2000, based on Canzinc's and ARCO's submissions as well as the detailed corporate histories produced by CBE's consultants, B.C. Environment added the province, the federal government, and ALCOA to the list of PRPs.²⁶⁸

²⁶⁶ Robert G. McCandles, "Ending Pollution at the Britannia Copper Mine," *BC Studies* 188 (Winter 2015/2016): 9-33; CEC, *Factual Record*, 113.

²⁶⁷ See R.H. Robb, Assistant Regional Waste Manager to Anaconda/ARCO, Canzinc Ltd, Ivaco/Arrowhead Metals Ltd, April 6, 2000. See footnote 108.

²⁶⁸ Ron J. Driedger, Deputy Director of Waste Management, to Anaconda/ARCO, Canzinc Ltd, Intalco Aluminium Corporation/Alumax Inc./ Howmet Holdings Corporation, Her Majesty the Queen in Right of Canada, Copper Beach Estates Ltd, Ivaco/Arrowhead Metals Ltd, Government of British Columbia and Alcoa. October 4, 2000. See footnote 108.

Negotiations between the PRPs began in November and continued into early 2001.²⁶⁹ The negotiations were dogged by a host of uncertainties regarding the future costs associated with remediation. Indeed, despite the reams of environmental data and stacks of planning documents that had been produced over the preceding decades no one was willing to put a number on the cost of constructing and operating the water treatment plant and disposing of the waste sludge in perpetuity with any great confidence. Notwithstanding these uncertainties, the province, as both environmental regulator and PRP, was eager to avoid years of expensive legal wrangling and litigation with the other responsible parties and pressed for prompt settlement of the matter.²⁷⁰ The other PRPs were similarly eager to have the matter settled, and by April 2001 a deal had been struck.

Under the terms of the settlement ALCOA, ARCO, CANZINCO, and Arrowhead Metals Ltd. agreed to contribute \$30 million dollars to fund the remediation of the Britannia mine. In return the province would indemnify them for all past and future environmental liabilities associated with the mine.²⁷¹ CBE was not party to the settlement; however, parallel discussions between the province and the company resulted in a separate “memorandum of agreement” (MOA). CBE had agreed to pay the province a lump sum of \$5 million for site remediation as well as provide the land required for the construction of the water treatment plant.²⁷²

²⁶⁹ Darren Gallagher, “Possible Deal on Britannia Cleanup,” *Squamish Chief*, 2 January, 2001:1.; Darren Gallagher, “Brit Mine Clean-Up Extended,” *Squamish Chief*, 27 February, 2001: 3.

²⁷⁰ For details of these negotiations see McCandless, “Ending Pollution”, 26-20 and CEC, *Factual Record*, 117-120. Details regarding accessing the correspondence between the province as regulator and the PRPs see footnote 108.

²⁷¹ Craig McInnes, “Premier hesitates on cleanup of old Britannia mine,” *Vancouver Sun*, 11 April, 2001: B3; Craig McInnes “Britannia Cleanup Costs Ex-owners \$30 Million,” *Vancouver Sun*, 13 April, 2001: B1; Darren Gallagher, “New Era for Brit Mine,” *Squamish Chief*, 27 April, 2001: A3-A6.

²⁷² CEC, *Factual Record*, 121. CBE would meet these costs by contributing monthly levies from a property development at the site until the sum of 8.4 Million was reached.

The \$35 million the province secured in April 2001 fell far short of the \$99 million that BCE estimated the the construction of the WTP would cost, and the province would have to cover the difference, and meet the operation costs “in perpetuity.”²⁷³ Despite this, the agreement was generally well received. Britannia Beach residents and local politicians were relieved that their town’s toxic legacy was finally going to be addressed.²⁷⁴ Mark Angelo, Chairperson of the Outdoor Recreational Council of B.C., an organisation that in March 2000 had proclaimed Britannia Creek the province’s most “endangered river”, described the settlement as “appropriate and fair,” adding that “the government's portion recognises that [the mine] could not have operated without being allowed to do so by the government.” Members of the SLDF were less than enthusiastic about the use of public money and expressed misgivings about the uncertain future financial liabilities associated with the mine clean-up. Indeed, considering the nature of the pollution problem at Britannia and the significant uncertainties regarding the future costs of any remediating project, the indemnity granted to the PRPs from all future environmental liabilities had exposed the province to the risk of considerable financial burden.²⁷⁵ However, the prevailing sentiment was perhaps best expressed by Environmental Mining Council of B.C.’s

²⁷³ This estimate of \$ 99 million comes from Azevedo and O’Hara, “A Review of the Management of the Britannia Mine”. In their press release announcing the agreements with the PRPs and CBE, the B.C. Environment did note that it intended to apply to the Canada/BC infrastructure fund for up to \$9 million to help cover the WTP’s construction costs. They also added that “If required, additional costs of the cleanup plan will be financed in part by the development of the Britannia mine property. This plan includes levies on future household developments on the site once it is cleaned up.”, B.C. Ministry of Environment, Lands, and Parks, “Britannia Mine Cleanup agreement reached,” April 12, 2001. *available at:* <https://archive.news.gov.bc.ca/releases/archive/pre2001/2001/4725.asp>. (accessed 16 March, 2016).

²⁷⁴ Darren Gallagher, “New Era for Brit Mine,” *Squamish Chief*, 27 April, 2001: A3- A6; Ralph Fulber, letter to editor, *Squamish Chief*, 1 May, 2001: A12.

²⁷⁵ Petti Fong, “Britannia Waives the Rules No More,” *Vancouver Sun*, 14 April, 2001: B9.

Alan Young: “we've got at least \$30 million hard cash...it's worth the risk, it's time to get on to cleaning.”²⁷⁶

Conclusion

By 2001 the Britannia mine had been consistently contaminating Britannia Creek and Howe Sound for at least 80 years. For most of this time, the mine had done so with impunity. Over the course of the mine's operating life, successive owners had valued the mines AMD as a small, albeit significant, auxiliary source of copper and Howe Sound an appropriate sink for mine wastes. By the 1970s, however, when the mine closed, such valuations were no longer tenable. Dominant environmental values in the province had shifted. The provincial governments first efforts to address the Britannia mine's environmental impacts reflected this shift, as environmental regulations attempted to respond to the growing public awareness and political mobilisation around issues of environmental contamination caused by mining. In the years following the mines closure, the provincial authorities' efforts to address and control the mine's environmental legacies were shaped by further shifts in the legal, political, and scientific context in which they were operating.

As a closed and abandoned mine, the Britannia mine's environmental legacies presented provincial authorities with a host of technical, political, and legal problems. While by the mid-1990s the technical issues had largely been settled, questions of responsibility and funding persisted, as the provincial authorities attempted to strong-arm past and present owners of the mine into paying for the its remediation. In his book *Slow Violence and the Environmentalism of the Poor*, Rob Nixon has argued that corporations can avoid responsibility for the environmental

²⁷⁶McInnes, “Britannia Cleanup Costs,” B1.

degradation and pollution they cause through that act of “corporate necromancy known as the merger.”²⁷⁷ However, as the Britannia case shows the avoidance of such responsibility has little to do with the magic; it is a political decision. Indeed, at Britannia, the forensic investigations into the corporate afterlives of former owners and operators of the mine had revealed the seemingly dark art of the merger to be little more than smoke and mirrors. An understanding of these corporate histories coupled with the 1997 amendments to the Waste Management Act had brought the former owners of the site to the negotiation table and produced a deal. The Britannia settlement showed that the provincial government was both capable and willing to hold private industry to account for its environmental missteps. However, it also revealed that the provincial government was willing to shoulder most of the responsibility and financial liability. The deal struck with the PRP’s in 2001, and the full indemnity from all future environmental liabilities that the provincial government had granted them, had saddled BC with the burden of paying for the past actions of a few private companies “in perpetuity.”²⁷⁸

But beyond these concerns, the remediation of the mine also lay the necessary foundations for the redevelopment of Britannia. Remediation of former contaminated sites is a key step in the rebranding and redevelopment of former resource extraction or industrial sites. Cleaning up the environmental legacies of Britannia mine was thus presented as the first step in the towns rejuvenation and renewal. Indeed, with the environmental and legal obstacles that had inhibited development at the old mine and the expansion of the BCMM through-out the 1990s now largely removed, new schemes for the redevelopment of Britannia began to proliferate. And just in time for the 2010 Winter Olympics, to be held in Whistler.

²⁷⁷ Nixon, *Slow Violence and the Environmentalism of the Poor*, 63.

²⁷⁸ For details see Auditor General of BC, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016.

Chapter 4: Conclusion

Remediation and Renewal

The agreement between the province and the PRPs was not the only deal regarding the Britannia mine to be struck in April 2001. That same month, CBE, now under new ownership, had made arrangements with researchers at UBC's Centre for Environmental Research in Minerals, Metals, and Materials (CERM3) to develop a research program at the mine.²⁷⁹ By 2001 the idea to develop a research centre at Britannia had been floating about for almost a 25 years. In the mid-1970s the PCB had considered developing an AMD research centre, and in the late 1980s CBE had contacted Dr. A. Mular, the then head of the Mining and Metal Processing Department at UBC, and Dr. George Poling, of the same department, requesting that they establish a research centre at Britannia Beach.²⁸⁰ These initiatives never got off the ground, but the ideas persisted.

In the winter of 2001 the UBC-CERM3 team established a \$150,000 research station at the 2200 level at the Britannia mine. UBC CERM3 had itself been set up with both state and industry funding in 2000, under the directorship of Dr. John Meech, a Professor of Mining Engineering at UBC. In 2001 Meech had initiated a broad research program into "sustainable mining" technology and practices.²⁸¹ The abandoned mine provided a perfect opportunity for the

²⁷⁹ John Meech et al. "Transformations of a Derelict Mine Site Into a Sustainable Community: the Britannia Project," *Journal of Cleaner Production* 14 (2006): 357.

²⁸⁰ Greenwood Collection Box 57— Britannia Beach Historical Society/BC Museum of Mining Box 1 of 1, file TIDSA Study., R.D. Cumming to Professor George Poling, October 12, 1988, and R.D. Cumming to Dr. A. Mular, September 28, 1988.

²⁸¹ John Meech et al. "CERM3 and its Contribution to Providing Sustainable Research for the Mining Industry," *CIM Bulletin*, 96 (1067): 72-81. John Meech et al. "Transformations of a Derelict Mine Site Into a Sustainable Community: the Britannia Project"; Scott Simpson, "Toxic Plugged Devised to Clean Up Britannia," *Vancouver*

UBC CERM3 researchers to experiment with, develop, and test new mining technologies and “showcase Canadian leadership in sustainable practices and mining innovation.”²⁸² Before the end of the year Meech and his team had successfully installed a concrete bulkhead or plug at the 2200 level, and were developing plans to produce more experimental technologies for mine redemption.²⁸³ The concrete plug sealed the underground tunnels at the 2200 level, and immediately stemmed the flow of AMD from the mine in Britannia Creek—although significant amounts of AMD continued to drain from the mine directly into Howe Sound at Britannia Beach.

Following UBC CERM3’s installation of the concrete plug, remediation efforts at Britannia stepped up a gear. In August 2001, Golder Associates, environmental consultants for the province, launched another round of technical studies and environmental impact assessments, testing groundwater contamination, analysing the mine drainage, and testing the best treatment options.²⁸⁴ With this work largely complete by early 2004, the consultants for the province produced an *Overall Mine Closure and Remediation Plan*.²⁸⁵ The following year the province entered a 21 year Private Public Partnership (P3) with EPCOR Water Services Ltd to construct and operate the new density water treatment plant at the Britannia based on this overall closure

Sun, 13 November, 2001: B1; Clare Ogilvie, “Plugging Pollution,” *The Province*, 21 November, 2001: A4; Natalie McGinnis, “Britannia Beach copper mine gets plugged,” *Squamish Chief*, 1 December: 2001.

²⁸² Meech et al. “CERM3 and its Contribution,” 73.

²⁸³ Meech and his team of researchers at the CERM3 had been developing a new “intelligent bulkhead” or plug system for closing and securing old mine shafts and adits. The experimental plug would be composed of bulk materials — sand, gravel, soil— which Meech argued would make it far more resistant to erosion and the acidic conditions within many abandoned and closed mines. Dubbed the Millennium Plug, partly because it was said to last 1,000 years and partly because it signified a new sustainable mining technology for the 21st century, Meech wanted to use the Britannia mine as a showcase for it.

²⁸⁴ Barry Azevedo and Gerry O’Hara, *A Review of the Management of the Britannia Mine Remediation Project*, paper presented at the 31st Annual B.C. Mine Reclamation Symposium, Squamish, Wednesday September 19, 2007.

²⁸⁵ Golder Associates Ltd. *Overall Mine Closure and Site Remediation Plan, Britannia Mine, Britannia Beach, BC*, (Burnaby, BC, 2003).

plan.²⁸⁶ Construction of the WTP began in March 2005 and it was up and running by October 2005.²⁸⁷

The remediation of the environmental issues at Britannia was widely considered to be the first step in the revitalisation of the old mining town. Ending the environmental stigma at the site would open up a world of opportunities for Britannia's complete redevelopment. Speaking to journalists about the remediation plan and the construction of the WTP in 2004, John Les, provincial Minister for Small Business, announced, "What was once and for many years considered one of the blights on the landscape is going to be reborn as one of those real first class opportunities in the future. Not only in terms of environmental recovery but also in terms of economically what could happen."²⁸⁸ Indeed, with the issues regarding environmental liability largely settled and the remediation of the mine underway several plans for the redevelopment of the site were already being considered.

In 2002, CBE emerged from receivership, but the company was still weighed down by significant debt. In the fall of that year, MacDonald Development Corporation (MDC) of Vancouver purchased CBE's mortgage from the numbered corporation 40091 ltd. After over a year of court proceedings and negotiations, MDC foreclosed on CBE in August 2003 and formed Britannia Bay Properties to manage the site. It was during the foreclosure proceedings that BBP

²⁸⁶ British Columbia Ministry of Sustainable Resource Management, Project Report- Achieving Value for Money: Britannia Water Treatment Plant, March 2005. available at <http://www.partnershipsbcc.ca/projects/operational-complete/britannia-mine-water-treatment-plant/> (accessed March 2015).

²⁸⁷ Darah Hansen, "Flushing out Heavy Metal," *Vancouver Sun*, 17 October, 2005: B2.; H. Ednie, "Britannia Mine Reclamation: Showing the World How it is Done," *CIM Magazine*, May 2006. available at <http://www.cim.org/en/Publications-and-Technical-Resources/Publications/CIM-Magazine/2006/May/features-2/Britannia-Mine-Reclamation.aspx?page=1>. (accessed 8 September 2015).

²⁸⁸ Adam Daff, "Mine Cleanup Will be Held up as Example to World in 2010," *Pique*, 12 November, 2004: available at <http://www.piquenewsmagazine.com/whistler/mine-cleanup-will-be-held-up-as-example-to-world-in-2010/Content?oid=2148813>.

entered into a Voluntary Remediation Agreement with the provincial Ministry of Sustainable Resource Management and that BBP's property at the old mine was subdivided into contaminated and uncontaminated lands. Under the terms of the agreement the province would become the owner of over 3,800 hectares of contaminated lands at Britannia Beach while BBP would maintain control of the uncontaminated portions of the land, most of which consisted of the residential and commercial areas around Britannia Beach.²⁸⁹ In addition to this, BBP received full indemnity for all environmental liabilities in exchange for contributing an "environmental levy" to the province's remediation fund for each lot development, an amount which at the time was estimated to be at least \$1.75 million.²⁹⁰ BBP had plans to develop a "boutique" community of nearly 300 houses based around a mining themed commercial centre in keeping with Britannia's heritage site status.²⁹¹ The company hoped to ride the wave of development expected in Howe Sound in the lead up to the 2010 Winter Olympics, to be held in Vancouver and Whistler.²⁹² Indeed in 2004, Britannia Beach experienced a "mini-land rush" as BBP sold off 90 of their lots in four days.²⁹³ Britannia Beach residents were given preferential treatment in this sale, finally gaining a security of tenure denied to them for the previous three decades.

At the same time, new plans were emerging that would see a massive renovation and expansion of the BCMM's operations. Working closely with researchers at UBC CERM3 and the federal Department of Natural Resources Canada, in early 2003 the BBHS had developed the

²⁸⁹ Chow Wyng, "Britannia Beach Changes Hands," *Vancouver Sun*, 22 August, 2003: G.5.

²⁹⁰ William Boei, "Britannia Beach Eyes Rich Future," *Vancouver Sun*, 25 October, 2003: B1.

²⁹¹ Jeff Lee, "Britannia Beach Goes "Boutique" community: Developer to Use Mining Theme for Centre," *Vancouver Sun*, 8 September, 2003: B1.

²⁹² Wyng Chow, "Olympics to Keep Real Estate Market Hot," *Vancouver Sun*, 12 September, 2003: G3.

²⁹³ Michael McCullough, "Buyers Rush to Buy Slice of Britannia Beach Site," *Vancouver Sun*, 17 August, 2004: D3.

“Britannia Project.”²⁹⁴ As Michael McPhie, the senior policy advisor for the Western division of Natural Resources Canada at the time, noted to journalists, “Britannia in its current state is really reinforcing a very negative stereotype and it constantly reinforces an idea that mining is just a thing of the past.”²⁹⁵ The Britannia Project would address this. Building on the initial successes of the ongoing remediation, the three organisations planned to create elaborate mining innovation and a research centre built around a fully restored mining museum. The overriding goal was to integrate the story of environmental protection and remediation into the history of the mining at Britannia, and as Dr. John Meech put it, to transform the old mine “from being the eyesore of the industry to something that becomes a showcase for the world.”²⁹⁶

The museum had already made some small moves in this direction. In early 2002 Golder Associates had approached the BCMM about the possibility of integrating a new display that explained the remediation work into their permanent collection. At the start of their 2002 season the BCMM unveiled the new exhibit, the first significant addition to their educational program since the early 1980s. Funded by both Shell Canada and UBC, the new exhibit used the Britannia mine’s story to explore the issues of Acid Mine Drainage and the history of environmental regulation, protection, and technological innovation in British Columbia.²⁹⁷

The Britannia Project would expand on these themes significantly. Echoing the aims first put forward by the BBHS in 1971, the Britannia Project hoped to educate the public on “Mining:

²⁹⁴ In early 2003 Paul Condon of the Jack Taylor Chair in Landscape and Liveable Environments organised a design “charrette” or workshop to help plan for the future development of Britannia Beach made possible by the remediation of the mine. The charter brought together the BCMM, UBC CERM3, Natural Resources Canada, Britannia Bay Properties and residents of Britannia Beach. The final outcome of the process was the Britannia Project. For reports on the initial planning process see UBC Jack Taylor Chair in Landscape and Liveable Environments, *Britannia Beach Community Visioning Charrette: Final Report*, November 2003.

²⁹⁵ Clare Ogilvie, “Million-Dollar Facelift Set for Britannia,” *The Province*, 11 November, 2003: A12.

²⁹⁶ William Boei, “Mine water could heat Britannia Beach,” *Vancouver Sun*, 28 April, 2004: B6.

²⁹⁷ Ian Jaques, “Acid Rock Becomes Part of Museum Experience,” *Squamish Chief*, 6 July, 2002: 3.

Past, Present, and Future.”²⁹⁸ This would be achieved through the development of a range of research oriented centres as well as educational and recreational facilities. UBC CERM3 would establish a permanent research centre at the old mine site in which to continue their work on “sustainable mining technology.”²⁹⁹ A “Britannia Centre for Mining Leadership and Innovation”, run by Natural Resources Canada, would showcase the modern mining technologies and environmentally friendly techniques, while an “Earth Garden”, integrated into the innovation centre and EPCOR’s water treatment plant, would provide “demonstrable evidence of [the] reclamation and regeneration” then underway at the site. The mining museum and Concentrator/Mill, fully restored and refurbished, would remain at the heart of the project.³⁰⁰

The Britannia Project would, as John Meech put it, “represent the evolution of mining.”³⁰¹ It would bring together Britannia’s two mining legacies— environmental and cultural— in one \$100 million complex. Seamlessly integrating stories of the environmental impacts of the mine and the efforts to address them into the historical narratives of technological and economic progress of mining that the BCMM had cultivated and presented since its founding in the 1970s, the Britannia Project would “utilise Britannia as an example of both the innovations and mistakes of the past while contrasting these with a vision of a future that is based on the principles of sustainability and environmental stewardship.”³⁰² The old mine site would be transformed into a spectacle of “sustainable mining practices” and innovation, rendering this

²⁹⁸ John Meech et al. “Transformations of a Derelict Mine Site,” 354.

²⁹⁹ Ibid.

³⁰⁰ Ibid.; Natural Resources Canada, *The Britannia Project: History, Regeneration, Sustainability. Phase Two* (2003)

³⁰¹ Clare Ogilvie, “Million-Dollar Facelift Set for Britannia,” *Province*, 11 November, 2003: A12.

³⁰² Natural Resources Canada, *The Britannia Project: History, Regeneration, Sustainability. Phase Two* (2003): ii.

future present, giving it concrete form, and showcasing for BC's mining prowess and environmental credentials to the world.

The plan was to have the site up and running by the 2010 Olympics. Like many of the redevelopment plans that came before it, however, the Britannia Project would remain largely unrealised. In 2003, a cave-in in the 2200 level tunnel— which Meech had intended to use to design and display his research output— put an end to UBC CERM3's long term research plans and their direct involvement in the scheme.³⁰³ Without sufficient funding commitments from the federal and provincial governments or the mining industry, many of the more ambitious developments such as the Earth Garden and Innovation Centre were scrapped.³⁰⁴

The mining museum did, however, undergo a significant renovation and transformation. In 2005 the BCMM, with funding from both the provincial and federal governments and the mining industry, launched a five year \$15 million redevelopment and upgrade program.³⁰⁵ Although a scaled down version, the message of the new museum would be the same as intended for the Britannia Project. The newly renovated museum would, Michael McPhie, who was by this time the director of the BBHS and president of the Mining Association of BC, “represent a unique opportunity to prove that an environmental liability can be transformed into a social, economic, and environmental asset— a legacy that Canadians and the mining industry can rightly be proud of.”³⁰⁶ The first task was to restore the Concentrator/Mill. While the patina of

³⁰³ BMMA Documentation of Events and Activities, 2007/2008 Newspaper Articles: “B.C. Museum of Mining: Historic Britannia Beach,” *The USB Communicator*.

³⁰⁴ Peter O'Neill, “Cost of Mine Makeover Put as High as \$100M,” *Vancouver Sun*, February 12, 2005: B1.

³⁰⁵ See

<http://www.britanniaminemuseum.ca/Default.aspx?PageID=15662905&A=SearchResult&SearchID=4256570&ObjectID=15662905&ObjectType=1>.

³⁰⁶ “Britannia Mine Museum Unveils Visitor Attractions,” *Vancouver Sun*, 15 September, 2010: A21. More information on the new museums program can be found at <http://www.britanniaminemuseum.ca>.

age had imbued the structure with a sense of historicity and authenticity, its dilapidated appearance did not square with the promises of a future of sustainable mining development that it was being used to convey. In 2005, the BCMM launched a two year restoration project which completely stabilised, re-roofed, re-clad the building and replaced all 1,194 windows of the old industrial structure and national historic site.³⁰⁷ Further renovations followed this restoration work. Other historic buildings on the site were moved and restored; a new display on the Britannia Beach developed; and the new Beaty-Lundin Visitor Centre constructed to host the many of the museum's exhibitions of mining equipment and mineral gallery. The museum then began giving tours of the EPCOR Britannia Mine Water Treatment Plant. The new museum, rebranded as the Britannia Mine Museum was unveiled in autumn 2010 in the lead up to the Winter Olympics. The following year, in 2011, pink salmon were spotted spawning in Britannia Creek for the first time in living memory.³⁰⁸

³⁰⁷ Paul Lukes, "Mining Louvre Getting Facelift," *The Province*, 5 April, 2005: A27.

³⁰⁸ David Burke, "Britannia Creek in the Pink," *Squamish Chief*, 14 September, 2011. available at <http://www.squamishchief.com/news/local-news/britannia-creek-in-the-pink-salmon-that-is-1.1107814>.



Figure 4.1: “Come Explore!”-- Britannia Mine Concentrator Mill. Photograph by Emily J. Hawes (used with permission).



Figure 4.2: Britannia's Concentrator Mill. Photograph by the author.

Afterlife of the Britannia Mine

So what are the legacies of the Britannia mine? How are we to understand its afterlife?

In his classic *Technics and Civilisation*, Lewis Mumford argued that the underground mine was the quintessential modern landscape. Representing both the creative and destructive capacities of industrialism, the mining landscape embodied both the confidence and anxieties of capitalist modernity. For Mumford, the material and cultural transformations that mining and resource extraction embodied were profound. Inorganic, devoid of food and non-human life, the mine represented the banishment of “the natural” and the triumph of “the artificial”; mines were the first technological or manufactured environments, a triumph to be both feared and celebrated.³⁰⁹ In this thesis I have tried to show that, as a site for the celebration of the technological and economic achievements of the past and a haunting reminder of the long term ecological devastation caused by mineral resource extraction, the Britannia mine’s afterlife has come to embody both aspects of Mumford’s understanding of the mined landscaped.

The Britannia mine was celebrated through the efforts of the BBHS. The BBHS had, through the preservation and commemoration of Britannia’s mining past, sought to establish a new economic basis for the old mining town. The material remains of mining at Britannia— the buildings, tunnels, old equipment, memorabilia, and artefacts— were revalued and redefined as heritage, and provided the resources for this redevelopment. Through these acts of preservation and commemoration the historical society also told spatial histories about the development of BC and Canada. These spatial histories revolved around stories of technological progress and

³⁰⁹ Lewis Mumford, *Technics and Civilisation* (Harcourt: Brace, 1934): 69-72. Also see Rosalind Williams, *Notes on the Underground: An Essay on Technology, Society, and the Imagination* (Cambridge, Massachusetts: MIT Press, 1990): 4-8.

society's ever increasing mastery over nature. They cast BC as 'mining country'— a region defined by and brimming with mineral resources— and extolled mining's virtues as the main driver of economic, political and social development in the province. They were what historian David Nye has called, "technological origin stories."³¹⁰ The BBHS, through acts of preservation and commemoration, celebrated the Britannia mine as an embodiment of this story of technological and economic progress; and it was through acts of preservation and commemoration that the BBHS sought to settle these spatial histories in place, render them material, concrete and immutable.

Yet, as Trevor Barnes reminds us, "places are porous and incomplete, shifting in relation to the various changing associations out of which they are constituted."³¹¹ By the mid-1990s the histories of mining that the BBHS could tell at and through Britannia began to shift. The environmental legacy of the site's mining past—AMD— began to overwhelm the cultural legacies that the BBHS had sought to celebrate. The AMD at Britannia spoke to different legacies of long term ecological despoliation, the degradation of Howe Sound and the death of Britannia Creek. As a form of slow violence, the mine's AMD issues raised questions about environmental health, responsibility, and the future development of both Britannia and Howe Sound. It was an environmental disaster reclassified as a technical, legal, and economic problem. The agreement between the province and the PRPs, stuck in 2001, and the remediation work that followed provided a technical, legal, and economic fix.

³¹⁰ Nye, "Technology, Nature, and American Origin Stories."

³¹¹ Trevor Barnes, "Placing Ideas: Genius Loci, Heterotopia and Geography's Quantitative Revolution," *Progress in Human Geography* 28,5 (2004): 578.

Remediation, however, represents more than a technical, legal, and economic fix. It was through the remediation of the mine, and the redevelopment and restoration of the BCMM that followed, that Britannia's tangled legacies were straightened out and reconciled. The newly renovated BCMM integrated the remediation of the mine into its spatial histories of mining in BC. In doing so, the museum's "technological origin stories" were complimented, again in Nye's terms, by a "recovery narrative": a narrative about the remaking and restoring of despoiled natures.³¹² In this way, the remediation of the mine was cast as a part of a continuity of past patterns of development as well as an important point of disjuncture within the history of mining in BC. These paradoxical understandings of the mine's remediation, and thus its afterlife, were reconciled through well-worn historical narratives of progress. Indeed, through its remediation, the Britannia mine became a showcase, a technological spectacle displaying BC's ability to regulate and manage the environment. It showed that with enough hard work, ingenuity, and the right technology that which has been ruined can be remediated. It provided further tangible evidence of BC's long history of mining expertise and innovation.

As an important point of disjuncture within this history, the remediation of the mine was presented as bringing to a close an ugly era in the history of BC mining of environmental ignorance in which the mining industry could pollute and despoil environments with impunity. The remedial work carried out at Britannia settled its environmental legacies, relegating them to the past and constructing the present as a moment of stringent regulation, enlightened environmental policy and technological prowess. In these ways, the remediation of the Britannia mine and the BCMM established and settled new spatial histories of mining in BC. They pointed

³¹² Nye, "Technology, Nature, and American Origin Stories."

to, legitimised, and made present the promises of a future of “sustainable” resource extraction in the province.

And yet “remediation” at a site like Britannia is not an end state. AMD is a “slow violence.” The long temporal scales over which it operates means that its remediation remains mired in various uncertainties. It is never fully realised. It is an ongoing process that requires constant work and attention. Environmentally, the mine’s legacy will persist “in perpetuity.” Britannia is a “zombie.” Its afterlife will never be fully settled.

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