Lines, mines, and ports:

The infrastructural politics of energy, extraction, and logistics in northwest BC

By

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Abstract

This thesis is an examination of two large-scale energy and logistics projects in northwest British Columbia: the Northwest Transmission Line and the Stewart World Port. Drawing on environmental assessments, government reports, engineering papers, journalism, film, photographs, maps, and other materials, it explores how such infrastructures shape the material geographies of mineral extraction in the region by tracing their history, continuity, and contemporary forms. The opening chapter explores the political landscape of the transmission line's construction in relation to the colonial history of the region—a history which has been driven by the desire for mineral wealth and materialized, to varying degrees of success, through infrastructure development. The second chapter interprets how the transmission line and related extractive activities are depicted in the documentary *Konelīne: Our Land Beautiful*, which was shot during the line's construction and offers a view into some of the landscapes and lives entangled in its development. The final chapter considers how conditions for extraction are created in northwest BC, by analyzing two logistical infrastructures: the Stewart World Port, which enables the transportation of mineral and other staples resources to market, and Mineral Titles Online, a web-based staking system that facilitates proprietary access to mineral lands.

Résumé

Ce mémoire examine deux grands projets d'infrastructure énergétique et logistique du nord-ouest de la Colombie-Britannique, la Northwest Transmission Line et le Stewart World Port. À partir d'évaluations environnementales, de rapports gouvernementaux, de publications d'ingénierie, d'articles de journaux, de films, de photos, de cartes géographiques et de matériaux divers, il explore comment ces deux structures affectent la géographie matérielle de l'activité minière dans la région en traçant leur histoire, leur héritage et leurs formes contemporaines. Le premier chapitre étudie le contexte politique de la construction de la ligne de transmission en relation à l'histoire coloniale de la région, une histoire motivée par la richesse minière et réalisée grâce au développement infrastructurel. Le second chapitre interprète la manière dont la ligne de transmission et les activités d'exploitation connexes sont représentées dans *Konelīne: Our Land Beautiful*, un film documentaire réalisé pendant la construction de la NTL posant un regard sur les paysages et les vies compromis par son développement. Le dernier chapitre considère les conditions d'extraction mises en place dans la région en analysant deux structures logistiques, le Stewart World Port, qui permet le transport de minerais et autres matières premières vers leurs marchés, et Mineral Titles Online, un système de jalonnement en ligne facilitant l'exploitation minière des terres publiques.

Acknowledgements

I was raised as a settler in Victoria, BC, on the unceded territory of the the Lkwungen, Wyomilth, and WSÁNEĆ peoples. The research and writing of this thesis took place in Montreal—unceded Indigenous land, known as Tio'tia:ke in the language of the Kanien'kehá:ka, that has long been a gathering place for many First Nations, including Haudenosaunee and Anishinaabeg peoples.

Thank you, first and foremost, to Darin Barney. I could not have asked for a more generous and insightful supervisor. I am grateful for your thoughtful guidance and boundless support, and look forward to continuing to work together.

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For Echo

Introduction

In the summer of 2012, I was in northwest British Columbia, conducting research for intervenors in the Enbridge Northern Gateway Pipeline hearings. Focused on the politics of pipelines, I had never heard of the Northwest Transmission Line, which was one year into construction at the time. I first saw signs of the line while driving north on the Stewart-Cassiar Highway. No one driving the highway that summer could have missed the towering stacks of timber and brush, assembled into fifty-foot-tall slash piles, lining the road. These stacks were the result of right-of-way road clearing conducted by BC Hydro contractors to make way for the Northwest Transmission Line. I later learned that the piles—amounting to an estimated half a million cubic meters of timber, or enough to fill 16,000 logging trucks—were not awaiting sale, or use, but bonfire: they sat on the roadside to dry in the summer heat, and to be burned in the wetter months of winter.[1] According to BC Hydro representative Lesley Wood, the distance made it economically unviable to carry the timber to market.[2] Instead, warnings were issued to residents of northwest BC that the sky would be filled with a smoky haze as BC Hydro released 600,000 tonnes of CO2 into the atmosphere, in order to clear the way for the province's new "green" infrastructure project.[3]

This experience left me with a sense of bewilderment, and offered a glimpse into the logics of extractive landscapes. It presented me to the ongoing importance of transportation to

[1] Gordon Hamilton, "BC Hydro Burns Hundreds of Thousands of Trees along Northwest Transmission Line," *Vancouver Sun*, November 18, 2012, http://www.vancouversun.com/technology/Hydro+burns+hundreds+thousands+trees+along+Northwest+Transmission+Line/7556455/story.html.
[2] "Trees Slash Burned for B.C. Mega-Energy Projects," *CBC News*, November 7, 2012, https://www.cbc.ca/news/canada/british-columbia/trees-slash-burned-for-b-c-mega-energy-projects-1.1206792.
[3] Hamilton, "BC Hydro Burns Hundreds of Thousands of Trees along Northwest Transmission Line."

resource economies,[4] as well as the absurd and violent relationalities of extraction, which render certain objects, processes, and services valuable, and others disposable.

Figure 1. Slash piles along Highway 37.

This thesis is an examination of two large-scale energy and logistics infrastructure projects in northwest British Columbia: the Northwest Transmission Line and the Stewart World Port. I trace the conditions that make such projects possible in the context of the colonial and extractive history of Canada's resource economy. Central to this study is the legacy of Harold Innis, who emphasized the significance of lines of communication, routes of transportation, and the material specificities of resource economies in shaping configurations of power. John Durham Peters writes that Innis was "one of the first who insisted infrastructure should be at the

[4] Harold A Innis, *Staples, Markets, and Cultural Change*, ed. Daniel Drache, Innis Centenary Series (Montréal: McGill-Queen's University Press, 2014), 123.

heart of media theory."[5] This "infrastructural disposition," which has since been adopted widely in media and communication studies, is characterized by an emphasis on materiality and relations of distribution.[6] It foregrounds the enabling conditions of communication, rather than its symbolic dimensions, and attends to how social reality is built and organized.[7]

Informed by this approach, I analyze various infrastructures as unconventional media, including power lines, ports, and tailings ponds. Power lines provide the grounds for which other processes unfold, while also mediating, in a more literal sense, the ground itself, by reconfiguring the viability of extraction. Ports act as gateways and points of contact between supply chain processes, and tailings ponds serve as container technologies, holding centuries of mine waste. Drawing on environmental assessments, government reports, engineering papers, journalism, film, photographs, maps, and other materials, I explore how these infrastructures shape the material geographies of extraction by tracing their historical legacy, continuity, and contemporary form.

This thesis is divided into three chapters, each of which takes a slightly different approach. The first outlines the colonial history of northwest BC, which has been driven by the desire for mineral wealth, and materialized—to varying degrees of success—through infrastructure development. I consider how this history persists materially in the present, conditioning the political landscape in which the Northwest Transmission Line was constructed. The second chapter explores the 2016 documentary *Konelīne: Our Land Beautiful*, which was shot during the construction of the transmission line, and offers a unique record of the landscape

[5] John Durham Peters, *The Marvelous Clouds: Toward a Philosophy of Elemental Media.* (University of Chicago Press, 2016), 18.
[6] Lisa Parks and Nicole Starosielski, *Signal Traffic: Critical Studies of Media Infrastructures* (Urbana: University of Illinois Press, 2015), 5.
[7] Jonathan Sterne, "Transportation and Communication: Together as You've Always Wanted Them," in *Thinking with James Carey: Essays on Communications, Transportation, History*, ed. Jeremy Packer and Craig Robertson (New York: Peter Lang, 2006), 118.

and some of the lives entangled in the line's development. Here, I demonstrate how the film's portrayal of the line communicates what Brian Larkin calls "the poetics of infrastructure": specifically, the possible futures for Indigenous peoples and settlers signified by the line, as well as the sensory and affective experiences occasioned by its massive steel towers and wire.[8] I also analyze two key scenes that depict the relationship between transmission and extraction, exploring what insights they offer into how these spaces are marked by forces of financial speculation and the toxic aftermaths of mineral waste. Finally, I reflect on the film as a cultural artifact in a settler colonial context, where representational practices like documentary filmmaking are implicated in the same ongoing processes of colonization as the subjects and landscapes they represent.

Northwest BC, often referred to as 'the Golden Triangle,' has acquired a quasi-mythical status for many in the mineral mining industry. The final chapter of this thesis considers how the conditions for extraction are created in this region—how the land is framed and rendered as a resource—by exploring the entangled processes that facilitate transportation and proprietary access to mineral lands. To do so, I analyze two logistical infrastructures: the Stewart World Port and Mineral Titles Online (MTO), a web-based staking system. The port acts as a gateway between, on the one hand, the spaces of global shipping and transcontinental logistics, and on the other, those of extractive industry and settler colonial territoriality.[9] MTO mediates and manages information, automating the distribution and record keeping of mineral tenure rights, and maximizing flows of capital into exploration and extraction. Informed by the work of Timothy

[8] Brian Larkin, "The Politics and Poetics of Infrastructure," *Annual Review of Anthropology* 42, no. 1 (October 21, 2013): 327–43.
[9] This logistical gateway is key to the economic viability of BC's mineral exports, which account for over a quarter of commodity exports for the province.

Mitchell, this final chapter considers the specific material operations of mineral extraction in order to shed light on the political landscape of northwest BC.[10]

[10] Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil* (Verso, 2011).

Chapter 1- A Power Line to Nowhere

"The Northwest Transmission Line is a nation building project and is vital to the future of our province. It will open up world-class mineral deposits and support the development of new mines and clean energy projects."

Bill Bennett, Minister of Energy and Mines[11]

The Northwest Transmission Line is an infrastructure mega-project, designed and implemented to supply electrical power to northwest British Columbia, a region previously beyond the reach of the grid. It is a key piece of infrastructure in an area of cultural and environmental complexity. Though promoted and financed as a green infrastructure project that would link remote communities to the energy grid, the introduction of affordable high voltage power also renders industrial and energy intensive projects economically feasible, and reduces forms of friction that previously hindered the full-scale development of the region's extractive potential: namely, spatial marginality, impeded access to market, and high energy costs.

This chapter proceeds in three parts. The first discusses the Northwest Transmission Line as an infrastructural technology. The second considers it in relation to the colonial history of the region, which has been driven by the desire for mineral wealth, and materialized—to varying degrees of success—through infrastructure development. The final section outlines how the rhetoric of green infrastructure was mobilized to secure funding for the line, by wedding the modernist promise of economic growth through technological development with that of a de-carbonized future through hydroelectricity.

[11] "New Transmission Line Ready to Power Northwest B.C." (BC Hydro, August 13, 2014), https://www.bchydro.com/news/press_centre/news_releases/2014/new-transmission-line-ready-to-power-northwest-bc.html.

The Northwest Transmission Line

The Northwest Transmission Line functions as part of the material base for a newly configured economy in northwestern British Columbia. Strung across the landscape, the high-voltage line was intended to act as the "backbone" of BC's growing economy,[12] evocative of the way in which the Canadian Pacific Railway (CPR) was heralded as the "spine" of the nation, one that, was built through Indigenous dispossession and the hyper-exploitation of racialized workers.[13] As Brian Larkin explains, the "peculiar ontology" of infrastructures "lies in the fact that they are things, and also the relation between things." In light of this, Dominique Boyer argues that "the contemporary enabling power of electricity—channeled through grids, power lines, and substrates—is infrastructure par excellence."[14] The Northwest Transmission Line is a medium for the conveyance of electricity, acting as a corridor for high voltage power. Power transmission and distribution systems have emerged and evolved over the past centuries into vast interconnected networks. The Northwest Transmission Line forms part of one such network within the North American grid. It is also enmeshed in heterogeneous networks of other relations that include roads, ports, generating stations, geological surveys, training protocols, and electromagnetic fields, as well as mineral and land claims, rivers, nonhuman animals, and complex ecologies.[15]

Infrastructures are distinct from other technologies in that they create "the grounds on which other objects operate, and when they do so they operate as systems."[16] By transmitting high voltage power to the remote, mineral rich area of northwestern BC, the Northwest

[12] Rob Klovance, "How the Northwest Transmission Line Was Built (and Why)," BC Hydro, June 27, 2014, n.
[13] Iyko Day, *Alien Capital: Asian Racialization and the Logic of Settler Colonial Capitalism* (Durham: Duke University Press, 2016).
[14] Larkin, "The Politics and Poetics of Infrastructure," 329.
[15] Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham: Duke University Press, 2010), 13.
[16] Larkin, "The Politics and Poetics of Infrastructure," 329.

Transmission Line reconfigures the conditions of possibility for extraction. Not only does it provide the grounds on which other processes unfold, but it also mediates, in a more literal sense, the ground itself. It organizes the land, topographically—in its physical presence, as well as its connection to markets and attendant forms of transportation and distribution—and the underground, geologically—in its classification of topographical forms and mineral deposits. Like other infrastructure projects, the transmission line represents an investment in a vision of the future that materializes through processes of financial investment, speculation, exploration, and extraction.

Unlike the fossil fuels that are sometimes used to produce it, electricity cannot be easily stored in warehouses, or loaded into trains, trucks, or railcars to be transported. In the late nineteenth century, when hydroelectric systems were first being developed and implemented, the use of direct current spatially constrained the location of generating sites relative to sites of consumption, because electricity could not be transmitted over long distances without major losses. This led to the construction of early hydroelectric sites close to urban centers and resource towns.[17] The development of alternating current systems, however, introduced the possibility of transmitting electric power over long distances, rendering the lines space-binding technologies that helped to solve "the classic Canadian problem of distance."[18]

Transmission lines are systems of conductors designed to carry high volumes of electricity over long distances with the minimum amount of loss. Transmission wires are suspended from steel towers or wooden poles, which transmit electricity from generating sites to substations, where the voltage is transformed.[19] BC Hydro—a Crown corporation formed in

[17] Matthew Evenden and Jonathan Peyton, "Hydroelectricity," in *Powering Up Canada* (Montreal & Kingston: McGill-Queen's University Press, 2016), 254.
[18] Evenden and Peyton, 254.
[19] Evenden and Peyton, 255.

1962—operates the province's transmission system, which consists of 22,000 steel towers, 100,000 wooden poles, 292 substations, and over 18,000 kilometers of line and underwater cables which connect various islands to the mainland and the rest of the province's electrical grid.[20] BC's system is linked to the rest of the country through Alberta, as well as to the United States. Figure 2. shows BC Hydro's transmission network in 2013, including both operational and prospective lines. As the map illustrates, the network is densest in the southern parts of the province. Though difficult to discern at this scale, these areas are connected to the northeast via three parallel red lines, representing three 500 kilovolt lines that transmit energy from the Peace Region. Another 500 kilovolt line extends from the center of the province in Prince George, west toward Terrace and north to Meziadin Junction.

This 2013 map depicts the Northwest Transmission Line as a faint green, dotted line, indicating it to be a future extension of the network. This 287 kilovolt, 344 kilometer transmission line begins at the Skeena Substation just south of Terrace, and largely follows the route of the Nisga'a Highway to Cranberry Junction before joining the Stewart-Cassiar Highway and traveling north to a newly constructed substation near Bob Quinn Lake. One year after the line was constructed, it was extended further to the Tatogga Lake Substation where a twenty-five kilovolt distribution line connects it to the predominantly Tahltan community of Iskut.[21] The majority of the mining development that the line will power is located in the territory of the Tahltan Nation. The line itself affects the traditional territory of nine First Nations, including the

[20] "Transmission System," BC Hydro, 2018, https://www.bchydro.com/energy-in-bc/operations/transmission/transmission-system.html.
[21] The Northwest Transmission Line is also a key step and potential interconnection between Southeast Alaska and the north American grid through BC.

Nisga'a First Nation, Kitselas First Nation, Kitsumkalum First Nation, Lax Kw'alaams First Nation, Metlakatla First Nation, Gitxsan, Skii km Lax Ha, and Gitanyou.[22]

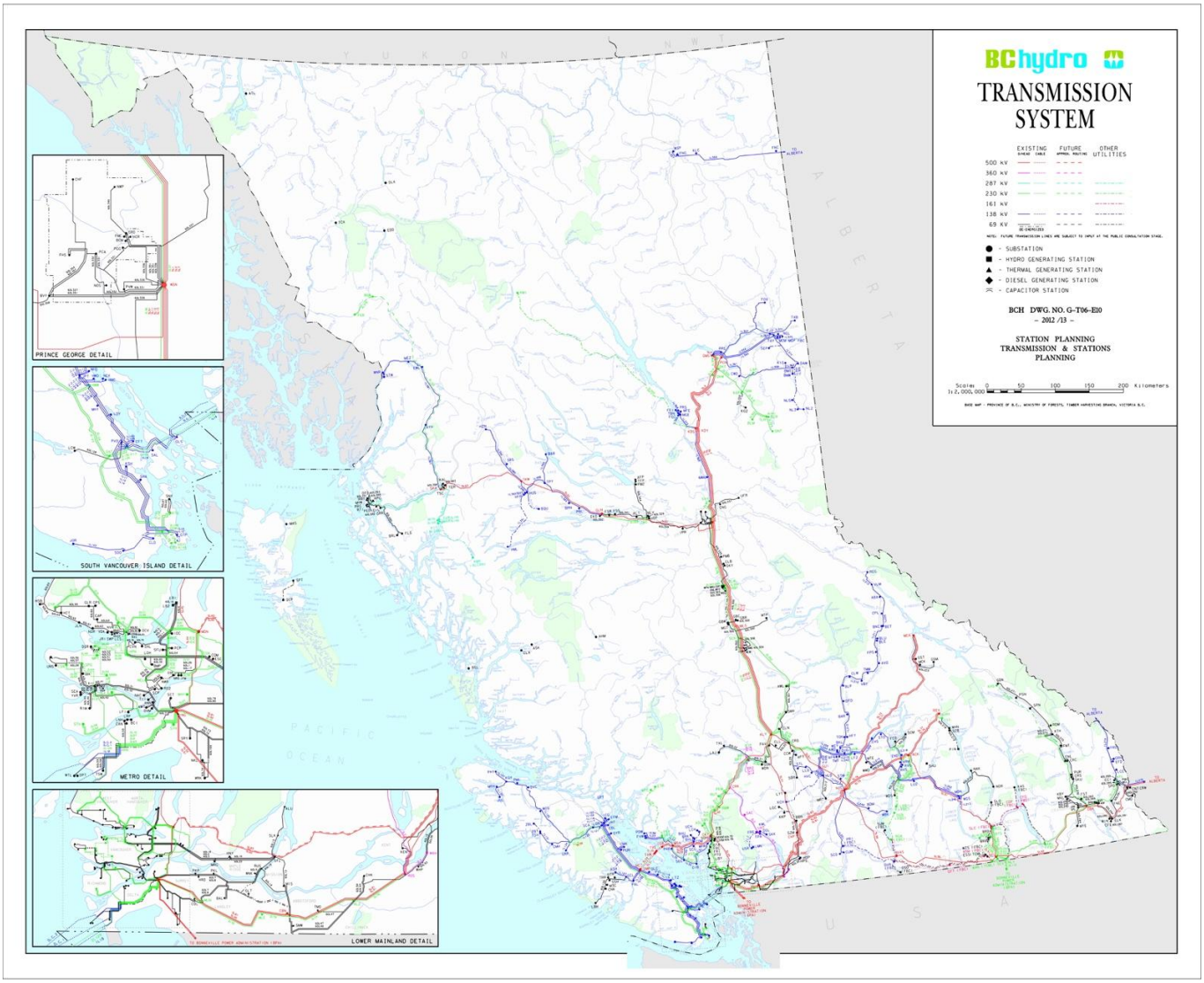

Figure 2. BC Hydro transmission system[23]

[22] Dogwood Initiative, "Citizen's Guide to Effective Engagement on the Proposed Northwest Transmission Line," June 2009, 7, https://dogwoodbc.ca/wp-content/uploads/2016/08/Northwest-Transmission-Line-Citizens-Guide_June2009.pdf.

[23] *Transmission System: Station Planning Transmission and Station Planning*, 1:2,000,000 (BC Hydro, 2013), https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/accounts-billing/electrical-connections/bchydro-transmission-systems-map.pdf.

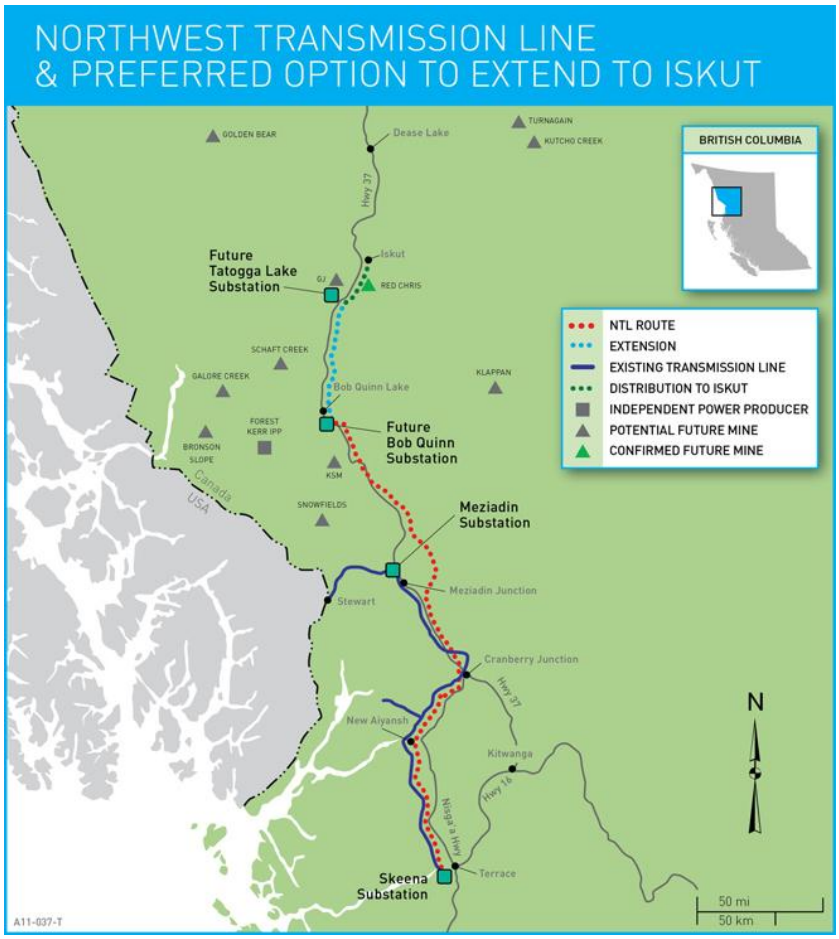

Figure 3. Northwest Transmission Line route

In *Signal and Noise*, Brian Larkin discusses the 'colonial sublime,' which he defines as "the way that technology was made to be an explicit part of the colonial political spectacle."[24] Tracing British colonial efforts in Nigeria, where the construction of grand infrastructure projects in the 1930s remade landscapes and the natural world, Larkin explores how such infrastructures, including electrification projects, address subjects of colonial rule. While the Northwest Transmission Line exists in a very different context--forming part of an ongoing history of settler colonial dispossession in a region with its own unique history--the colonial sublime offers an

[24] Brian Larkin, *Signal and Noise: Media, Infrastructure, and Urban Culture in Nigeria* (Durham: Duke University Press, 2008), 11.

insightful conceptual framework for understanding the ways in which the line's construction and presence has been communicated.

The construction of the Northwest Transmission Line was staged as an engineering spectacle. BC Hydro boasts, for example, that the line's 1100 towers together contain one and a half times the amount of steel in the Eiffel Tower.[25] In this attempt to convey the scale of the project, the company seems to present the line, anachronistically, as a feat of modern engineering, and conjures a sense of awe and nationalistic pride. The company's efforts to communicate colonial sublimity are further showcased on their website, where videos document glorified moments in the line's construction. Helicopters swoop over what the narration calls "extremely rugged and remote terrain," carry massive transmission towers that resemble crosses sweeping through the sky, and connect conductors through controlled implosions.[26] According to BC Hydro's communications lead, the construction of the transmission line "was an absolutely phenomenal engineering exercise, in extremely rugged terrain."[27] The description of the Canadian landscape as "rugged" draws upon the hegemonic history of Canada as a struggle between inhospitable terrain and technological—specifically infrastructural—construction.

The staging of the Northwest Transmission Line's construction takes place within a history of Canadian technological nationalism. As Maurice Charland writes, "Canada's existence as an economic unit is predicated upon transportation and communication technology. In addition, the *idea* of Canada depends upon a rhetoric about technology."[28] The Canadian Pacific Railway, for instance, fostered immigration westward, extended Ottawa's political power,

[25] Klovance, "How the Northwest Transmission Line Was Built (and Why)."
[26] Klovance.
[27] Larkin, *Signal and Noise*, 38.
[28] Maurice Charland, "Technological Nationalism," *Canadian Journal of Political and Social Theory* 10, no. 1–2 (1986): 199.

consolidated wealth in metropolitan centers, and also facilitated dispossession, the genocide of the plains buffalo, and the exploitation of racialized labour.[29] According to Charland, it also offered many settler-Canadians "the experience of a technologically-mediated political unity as a common denominator," as well as "the possibility of developing a mythic rhetoric of national origin," which serves to induce Canadians to see themselves as such, and to legitimize Canadian sovereignty.[30] Drawing on a similar rhetoric of technological nationalism, former Minister of Energy and Mines Bill Bennett described the Northwest Transmission Line as "a nation building project...vital to the future of our province."[31]

The staging of the Northwest Transmission Line as a nationalist engineering spectacle reflects the history of Canadian colonial expansion and dispossession through the construction of infrastructure, and the idea of Canadian identity and experience as forged in the meeting of landscape and its mastery by technological means. In the subsequent section, I will trace a brief genealogy of this relationship between land, infrastructural technologies, and colonialism--from the extractive economies of the gold rush, which shaped provincial boundaries in the late nineteenth century; to the telegraph, which drew the northwest into nineteenth century imperial network cartographies; and finally into the twentieth century, when the sights of southern politicians turned northward, and attempts were made to exert political and economic control over the north, and exploit its resources through the construction of railways, dams and roads. In outlining this history, I hope to show the conditions under which the Northwest Transmission

[29] Sarah-Jane Mathieu, *North of the Color Line: Migration and Black Resistance in Canada, 1870-1955* (Chapel Hill: University of North Carolina Press, 2010); Deborah Cowen, "Beyond '150': Transnational Infrastructures of Empire and Resistance" (March 20, 2018).
[30] Charland, "Technological Nationalism," 199.
[31] Klovance, "How the Northwest Transmission Line Was Built (and Why)."

Line has emerged--namely, the changing relationships between colonial dispossession, economies of extraction, state-making, and infrastructural technologies.

Colonial History

Nineteenth century settler colonial expansion into what is now northwest British Columbia was driven largely, as it is today, by the promise of mineral wealth. Caroline Desbiens, describing Quebec in the twentieth century, writes that "water was the engine driving the appropriation of new territory."[32] During the nineteenth century, in what would become BC, it was gold. In *Settlement and the Mining Frontier,* Harold Innis explained that "placer gold acted as the most powerful conceivable force in mobilizing labour and capital for an attack on the difficult Pacific Coast Region."[33] Two gold discoveries are of particular significance for having drawn capital, labour, and settlers to northwest BC in the nineteenth century.

The first was in 1861, when Alexander "Buck" Choquette found gold at the meeting of the Stikine and Anuk Rivers, setting into motion the Stikine Gold Rush. The rush brought miners to the region from outside, and with them, outbreaks of smallpox, measles, and influenza that led to the deaths of innumerable Tahltan.[34] At the time, the region was not yet part of the Crown Colony of BC. The discovery of gold brought it to the attention of Governor James Douglas and lent a sense of urgency to his desire to claim it for the British.[35] Douglas proceeded to carve borders around the Stikine watershed and form a new colony, "to be known as the Territory of Sticken," where he would assert his authority to "administer justice and to make laws within the

[32] Caroline Desbiens, *Power From the North: Territory, Identity, and the Culture of Hydroelectricity in Quebec* (Vancouver, Toronto: UBC Press, 2013), 20.
[33] Harold A Innis, *Settlement and the Mining Frontier*, vol. 9, Canadian Frontiers of Settlement (Toronto: The Macmillan Company of Canada Limited, 1936), 137.
[34] Sylvia L. Albright, "Tahltan Ethnoarchaeology" (Thesis, Simon Fraser University, 1984), 17.
[35] Jen Preston, "Neoliberal Settler Colonialism, Canada and the Tar Sands," *Race & Class* 55, no. 2 (2013): 47.

territory.[36] Though the Royal Proclamation of 1763 prohibited the acquisition of territories unceded by First Nations, this was largely ignored in the west. When the "Territory of the Sticken" was written into Confederation along with the Crown Colony of British Columbia on July 20, 1871, no treaties had been negotiated or signed, and no First Nations in the northwest had relinquished title to their lands.[37]

While the Stikine Gold Rush had profound consequences on the legislation of territorial sovereignty for First Nations and settlers alike, a subsequent discovery of gold more significantly impacted the everyday lives and economies of the Tahltan people. In 1874, gold was found in Thibert Creek, close to Dease Lake, spawning the Cassiar Gold Rush, which brought "more white men than the Tahltan had ever seen," established the first community of settlers to live year-round in the Stikine watershed, and introduced many infectious diseases.[38] To strengthen their communities, various Tahltan clans formed a communal village near the meeting of the Tahltan and Stikine rivers--a consolidation which shifted the monopoly that the Tlingit once held on the interior fur trade, altering long established trading relationships.[39] Among the settlers who arrived were representatives of the church and of state institutions, as well as merchants, who came to meet the needs of missionaries, miners, and bureaucrats--and, increasingly, the Tahltan, as traditional trading networks were undermined by the influx of new commodities.[40] Finally, in

[36] British Columbia City Directories 1860-1955, "Territory of Sticken." *Vancouver Public Library.* Accessed April 7, 2017.
[37] The Crown never negotiated treaties in most of what is now BC; however, in 1899, Treaty 8 was extended to include part of northeastern BC, and the Douglas Treaties, drafted from 1850-1954 applied to territory on Vancouver Island. Chief Nannock along with three other Tahltan Tribal leaders officially declared the Stikine River Watershed for the Tahltan in the 1910 Declaration of the Tahltan Tribe. Callison, "A Digital Assemblage," 28. The Tahltan withdrew from, and are currently not involved in, the modern treaty negotiating process.
[38] Candis L. Callison, "A Digital Assemblage: Diagramming the Social Realities of the Stikine River Watershed" (Master's Thesis, Massachusetts Institute of Technology, 2002), 39.
[39] Albright, "Tahltan Ethnoarchaeology," 18.
[40] Albright, 30.

the 1880s, the Klondike gold rush brought another influx of prospectors to Tahltan territory;[41] this time, however, the region's geography positioned it as a thoroughfare, as the Stikine River acted as a major transportation route and the first leg in the "The All-Canadian Route to the Klondike."[42]

Infrastructural Past

"The story of the Stikine has essentially been one of false hopes and would-be developments…of railway lines not quite constructed; grand telegraph proposals that failed; gold mines that petered out; copper and coal deposits that defied development."[43]

Marty Loken, *The Stikine River*

Geographer Jonathan Peyton explains that "visions of a northern landscape punctuated by dams, railroads, transmission lines and mineral projects have inspired industrial entrepreneurs to conceive countless schemes for the extraction, harnessing and transport of goods and energy from the north."[44] According to Peyton, what marks the distinctiveness of the Stikine watershed, however, is a sense of "frustrated progress."[45] In the nineteenth and twentieth centuries, the region was the subject of a series of infrastructure mega-projects that were envisioned,

[41] The Cassiar gold rush did not only bring white settlers to Dease Lake. Like gold rushes along the Pacific coast many miners were Chinese. In a letter to the editor published in Victoria's *Daily Colonist*, A.W. Rogers, a jail-keeper, argued that in the gold fields the Crown should "shut out the Chinese and, as it is forbidden to us to discriminate, [the Crown] must treat all aliens alike and exclude them all." This racist rhetoric was reflected in law, in the form of the Chinese Head Tax, which came into force twelve years earlier, and remained in effect until over a quarter century later. By bringing these racist forms of exclusion to bear on mining licensing, A.W. Rogers insisted on white supremacist policies whereby "the only way to preserve the wealth of the country to Britons is to license only British subjects." Indeed, he suggesting that "there will be plenty of British hands to dig and carry it [the gold] away." A.W. Rogers, "We Need It All," *Daily Colonist*, September 2, 1897, 6. While such policies were never enacted, Chinese miners were subject to many extra-legal forms of racism in such spaces. As *The Pittsburg Commercial* reported in 1871, Chinese men were "shamefully treated, and [were] threatened with violence if they [entered] the diggings." This treatment was mirrored in forms of violent exploitation faced by Chinese laborers who mined in the rest of the province and in the U.S., as well as those who worked on the CPR, a few hundred kilometers south.

[42] Albright, "Tahltan Ethnoarchaeology," 17.

[43] Loken, "The Stikine River," 9.

[44] Jonathan Peyton, *Unbuilt Environments: Tracing Postwar Development in Northwest British Columbia* (Vancouver: UBC Press, 2017), 6.

[45] Peyton, 6. 6.

engineered, and either canceled or abandoned at various stages. This has led many to consider the Stikine a "failed landscape removed from modern standards of industrial progress."[46]

In *Unbuilt Environments*, Peyton traces social and environmental effects of such post-war resource development projects in the Stikine watershed. He argues that it is imperative to look not only at projects that succeed, but also at those that fail, for two primary reasons. First, though failed projects do not exist as the durable structures they were envisioned to be, the planning, data-gathering, and negotiation they generate have enduring effects on forms of social organization, relationships to place, and ways of knowing nature.[47] Second, he argues that it is imperative to consider projects that have been postponed, rejected, or cancelled, as they reveal the historical and contemporary forces that shape development dreams and visions of the Canadian north.

In tracing the precursors to the Northwest Transmission Line, it seems fitting to begin with the telegraph: "the first product—really the foundation—of the electrical goods industry and thus the first of the science- and engineering-based industries."[48] Prior to the post-war development projects chronicled by Peyton, Victorian era communication technology also left an enduring mark on northwest BC. The Western Union Telegraph Company's Russian-American Telegraph was perhaps the first failed infrastructural project to shape northwest BC. Known as the Collins Overland Telegraph Cable—after Perry McDonough Collins, the entrepreneur who piloted the project—it was intended as a transcontinental communication link, following the failure of a trans-Atlantic underwater cable in 1858. The project would connect San Francisco to Europe, by stringing an overland telegraph cable up through western Canada, across the Bering

[46] Peyton, 6. 6.
[47] Peyton, 7. 7.
[48] James W Carey, "Technology and Ideology: The Case of the Telegraph," *Prospects* 8 (1983): 304.

Strait, and west from Siberia to Europe. The colonial government of what is now British Columbia supported the project, as its geopolitical isolation put it at risk with regard to American imperial aspirations, and the telegraph, while intended to connect the United States with Russia, would also facilitate British communications with its Pacific colony.[49]

The New York Times reported in 1864 that the Collins Overland Telegraph would fulfill even greater imperial ambitions, acting as "the last link in a telegraphic chain that is to find out only Europe and America [*sic*], but Asia and Africa as well, into one living and speaking unity."[50] Milton Latham, a California Senator and friend of the entrepreneur Collins, appealed to the US Senate to fund the survey work required to build the line, claiming that "we hold the ball of the earth in our hand, and wind upon it a network of living and thinking wire, till the whole is held together and bound with the same wishes, projects, and interests."[51] This evocation of "thinking wire," and its promise to bring communication, connection, and progress, reflects the epistemic influence of electricity on the human sciences in the nineteenth century, including energetic models of both the mind, and of communication.[52] This was further reflected in the military style uniforms worn by many of the telegraph expedition members, which featured "a silver globe with silver flashes of lightning darting to each end, symbolizing the uniting of the globe that would become a reality with the Russian-American telegraph."[53]

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[49] Stephen Wilcockson, "Perry Collins's Electronic Rim around the Pacific : The Russian-American Telegraph, 1865 to 1867" (University of British Columbia, 1996), 9. 9

[50] "The Collins Russian Overland Telegraph via Behring's Straits.," *The New York Times*, April 8, 1864, http://www.nytimes.com/1864/04/08/news/the-collins-russian-overland-telegraph-via-behring-s-straits.html.

[51] O.H. Palmer, "Statement of the Origin, Organization and Progress of the Russian-American Telegraph: Western Union Extension, Collins' Overland Line, Via Behring Strait and Asiatic Russia to Europe" (Rochester, NY, May 1866), 33.

[52] James D. Reid, *The Telegraph in American and Morse Memorial.* (New York, 1886), 509, http://hdl.handle.net/2027/hvd.hb1y0b.

[53] Rosemary Neering, *Continental Dash: The Russian-American Telegraph* (Ganges, BC: Horsdal & Schubart, 1989), 27.

The project was deserted in 1867, after an underwater cable was successfully laid across the Atlantic, connecting Newfoundland and Ireland in 1866, rendering the overland Russian extension superfluous.[54] Though it never bound together a universal global village, the Collins Overland Telegraph left an enduring mark on the landscape of northwest BC. It gave the town of Telegraph Creek its name, along with leaving several hundred tons of telegraph wire on the banks of the Stikine River.[55] Some of this abandoned wire was later repurposed to strengthen other points of transportation and communication in the region. The wooden Hagwilget Bridge, for example, which connected the Wet'suwet'en Nation and the Gitxsan Nation on either side of the Bulkey River, was woven through with telegraph wire.[56] The cantilever bridge (Figure 3), played a significant role in important trade networks connecting inland and coastal First Nations communities.[57] Many similar bridges were used both prior to colonization and into the colonial period along key transportation routes that followed and crossed rivers in the northwest.[58] The repurposing of the telegraph wire to reinforce the Hagwilget Bridge indicates how the technologies and materials of even failed infrastructural projects endure and take on forms that exceed their original intentions.[59]

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[54] Corday Mackay, "The Collins Overland Telegraph," *British Columbia Historical Quarterly* 10, no. 3 (July 1945): 188; Nicole Starosielski, *The Undersea Network*, Sign, Storage, Transmission (Durham: Duke University Press, 2015), 151.
[55] Wade Davis, *The Sacred Headwaters: The Fight to Save the Stikine, Skeena, and Nass* (Vancouver: Greystone Books, 2011), http://www.deslibris.ca/ID/442183.
[56] "Hagwilget Bridge, near Hazelton, British Columbia," Regional District of Kitimat Stikine, accessed June 29, 2018, http://www.rdks.bc.ca/content/hagwilget-bridge-near-hazelton-british-columbia.
[57] "Hagwilget Bridge, near Hazelton, British Columbia."
[58] Brenda Guernsey, "Spanning the Distance: Aboriginal Bridges of Northwestern British Columbia," Living Landscapes, April 2006, https://royalbcmuseum.bc.ca/exhibits/living-landscapes/northwest/bridges/index.html.
[59] Larkin, *Signal and Noise*, 20.

Figure 4. Horetzky, Charles, "First Bridge at Hagwilget in Winter."[60]

Perhaps the most notoriously unsuccessful development project in the Stikine region is the Dease Lake Extension, a rail-line that was intended to open northwest BC to natural resource extraction. When the BC government announced the construction of the Northwest Transmission Line, critics evoked the Dease Lake Extension as a bellwether of the transmission line's likely failure.[61] The Dease Lake Extension was driven by the province-building aspirations of Social Credit Party Premier W.A.C. Bennett, and informed by ideologies of high modernism. The premier emphasized development of the province's northern resources through the construction of transportation infrastructure. These "northern development dreams" involved ambitions of northward expansion intended to engender—as Bennett declared "a modern day gold rush"—by

[60] Charles Horetzky, *First Bridge at Hagwilget in Winter*, 1872, Photograph, 1872, BC Archives, http://search-bcarchives.royalbcmuseum.bc.ca/first-bridge-at-hagwilget-in-winter.
[61] Wade Davis, "A Power Line to Nowhere: What Coal Mining Means to British Columbia's Sacred Headwaters," *The Walrus*, December 18, 2013, https://thewalrus.ca/a-power-line-to-nowhere/.

extending the provincial railway network to stimulate development in advance of demand.[62] This vision of expansion through rail was informed by the mythic status of the CPR in Canadian state making.[63] W.A.C. Bennett likened the extension of the provincial rail network to the nation-building role of the CPR, stating that it would "open the north as the CPR had opened the west."[64]

The Dease Lake Extension was the final and northernmost leg in a number of rail upgrades connecting the southwestern and northern parts of the province via the Pacific Great Eastern Railway (PGER). Construction of the extension began in 1969, but after laying over five hundred kilometers of rail bed from Fort St. John to Dease Lake, the project was abandoned in 1977. The project's construction was initially estimated at $68.9 million, yet when the cost had risen to $360 million. The reasons cited for this were major cost overruns resulting from inadequate surveying work, poor engineering, excessive environmental degradation. The rail network was intended to remedy the problem of access that has long since restricted the development of northern resources.[65] While the other extensions of the PGER were successfully constructed, the Dease Lake Extension was such a disaster that a royal commission was assembled to investigate what had transpired.

Among the many reasons for the failure of the Dease Lake Extension is the significant challenge that the geography and economy of the northwest pose to rail infrastructure. In agricultural areas of western Canada, rail has played a foundational role in the organization of

[62] Peyton, *Unbuilt Environments*, 2017, 69.
[63] For instance the Pacific Northern Railway was a monorail system proposed in 1956 yet abandoned in 1962, which was planned to connect British Columbia with the Yukon and Alaska. Taylor, "The Bennett Government's Pacific Northern Railway Project and the Development of British Columbia's 'Hinterland."
[64] John R. Wedley, "A Development Tool: WAC Bennett and the PGE Railway," *BC Studies: The British Columbian Quarterly*, no. 117 (1998): 33.
[65] Peyton, *Unbuilt Environments*, 2017, 72.

colonial space, political subjectivity, and relations of production,[66] such that "wheat cannot be understood separately from the train, and vice versa."[67] As Jody Berland explains, "the space of western Canada is both sought and produced by the building of the railway."[68] The fact that rail was never successfully established in northwest BC perhaps owes in part to the geophysical and spatial organization of the mineral mining economy, which poses challenges to railway networks as mines are geographically dispersed and scattered in rough and uneven terrain, accessible only by traversing steep grades, curves, and bodies of water.[69]

Though the Dease Lake Extension was never fully realized, the abandoned rail grade it left behind has become a central thoroughfare in the northwest. This path continues to be used for recreational purposes, as well as by mining and energy companies, many of whom have upgraded and added sections to it in order to facilitate access to exploration and operation sites. Recent inter-regional rail projects have also been envisioned that would utilize sections of the unfinished line.[70]

The third infrastructure mega-project in the Stikine sought not to build transportation routes to exploit its resources, but to harness its rivers to produce power for the grid. Tina Loo explains how the BC Social Credit government's development goals shifted, in the mid-1950s, from transportation to hydroelectricity, which was to form the "heart" of the modern society that the party sought to build.[71] Within this context, they negotiated the Columbia River Treaty and

[66] Darin Barney, "To Hear the Whistle Blow: Technology and Politics on the Battle River Branch Line," *TOPIA: Canadian Journal of Cultural Studies*, no. 25 (2011).
[67] Jody Berland, *North of Empire: Essays on the Cultural Technologies of Space* (Durham: Duke University Press, 2009), 74.
[68] Berland, 74.
[69] Lawrence Douglas Taylor, "The Bennett Government's Pacific Northern Railway Project and the Development of British Columbia's 'Hinterland,'" *BC Studies: The British Columbian Quarterly*, no. 175 (July 19, 2012): 38.
[70] Peyton, *Unbuilt Environments*, 2017, 167.
[71] Tina Loo, "People in the Way: Modernity, Environment, and Society on the Arrow Lakes," *BC Studies*, no. 142/143 (2004): 163.

built massive dams in the Peace River region, including one named after W.A.C. Bennett himself.[72] Between 1973 and 1983, BC Hydro sought to develop a massive hydroelectric project in the northwest by installing a series of dams on the Stikine and Iskut Rivers.[73] Unlike the telegraph and the rail extension, which were abandoned mid-construction, the damming project never reached the construction phase, but its planning led to extensive data collection and survey work on the rivers and their surrounding ecologies.

While some residents of the region welcomed the economic benefits that this development promised to bring, the project was the subject of significant resistance. For the Tahltan the Stikine River represented, among other things, a central means of transportation and source of sustenance for not only the humans who live in the region but over 100 species of animals, including many varieties of salmon, ruminants, bears, and wolves.[74] The damming of the river would thus have irreversible effects on hunting, trapping, and fishing, as well as threatening the rutting grounds of the local mountain goat population. Tahltan resistance to the project, under the banner "No Dam Way," involved questioning the jurisdiction of the Crown corporation, based on unresolved land claims in the area, as well as confrontations with BC Hydro personnel, as well as isolated acts of sabotage.[75] Eight trailers at BC Hydro's camp at Bob Quinn Lake--now the location of the Northwest Transmission Line's substation—were set on fire, $10,000 in aviation fuel was burned, and BC Hydro workers were fired upon.[76]

The Stikine-Iskut hydroelectric project also attracted the attention of environmentalists in the southern part of the province. The advocacy group "Friends of the Stikine," based in North

[72] Loo, "People in the Way."
[73] Peyton, *Unbuilt Environments*, 2017, 94.
[74] Callison, "A Digital Assemblage," 24.
[75] Evenden and Peyton, "Hydroelectricity," 264.
[76] Peyton, *Unbuilt Environments*, 2017, 107.

Vancouver, acted as an intermittent ally to those opposing the dam locally.[77] The southerners—informed by preservationist environmental goals of the 1960s and 1970s—were motivated, however, by a drive to protect what they saw as "pristine" and "untouched" wilderness, and sought to do so through the creation of a park.[78] Candis Callison notes that while individual Tahltans collaborated with environmentalists, "no official relationship or long term cooperation between organizations and tribal governments ensued."[79] The nature of their collaboration was based on a shared struggle, but was driven by different priorities and tactics.

The history of failed infrastructure projects in northwest BC helps to explain the widespread skepticism with which the Northwest Transmission Line was met. Given the ubiquity of grid power in most populated areas of the country, its continued expansion into increasingly remote regions might seem, in some sense, inevitable. As Boyer writes, the grid is "an apparatus subtlety inclined to encourage demand, to expand itself, to solicit further dependency on its powers, which then grow in response."[80] Yet, in light of the pattern of abandoned development in the Stikine, Peyton notes that "for a long time, it appeared that the NTL would remain unbuilt."[81] Among its vocal critics was anthropologist and Stikine resident Wade Davis, who publicly opposed the line's construction: "Recalling the long-ago failure of BC Rail's Dease Lake extension—the so-called 'railway to nowhere' that collapsed in 1977—many local people now refer to the proposed 292-kilometre extension of the NTL as the "power line to nowhere."[82]

[77] Callison, "A Digital Assemblage," 26.
[78] Evenden and Peyton, "Hydroelectricity," 264.
[79] Callison, "A Digital Assemblage," 25.
[80] Dominic Boyer, "Anthropology Electric," *Cultural Anthropology* 30, no. 4 (2015), https://culanth.org/articles/788-anthropology-electric.
[81] Peyton, *Unbuilt Environments*, 2017, 171.
[82] Davis, "A Power Line to Nowhere"; Christopher Pollon, "Time to Get 'Wacky' Again: The Northwest Transmission Line," *The Tyee*, September 21, 2009, http://thetyee.ca/News/2009/09/21/northwesttransmission/.

While northwest BC has seen its fair share of failed infrastructural undertakings, the Northwest Transmission Line, along with two other projects, is reported to have provided significant infrastructure upgrades that have created the conditions under which the northwest has reemerged as a promising site of mining investment. A widely circulated infographic, created by Vancouver "digital media brand" the Visual Capitalist, narrates the recent history of the northwest as the "Re-awakening of the Golden Triangle."[83] Using the trope of frontier wilderness, it describes the region as "mostly untouched by humans," as a lack of infrastructure and extraction had "left the area lying dormant for decades."[84] The infographic cites several reasons for the "Reawakening of the Golden Triangle," including market conditions and climate change, as declining snow cover is "revealing rocks never seen before by human eyes." Principal among these, however, is infrastructure.[85] "Three massively important infrastructure upgrades," are credited for the emergent potential of the Golden Triangle as a promising site for mineral exploration and investment: the Northwest Transmission Line, which brings affordable power; the Stewart Port, which serves as a logistical gateway to Pacific markets (and the subject of the next chapter); and the Stewart-Cassiar Highway, which facilitates mobility.

The Stewart-Cassiar Highway, also known as Highway 37, has a much longer history than the Northwest Transmission Line and the Stewart Port. The ambitions behind its realization were largely the same as those that guided the attempted construction of the Dease Lake extension: namely, nation building and resource extraction. While numerous factors led to

[83] "The Re-Awakening of the Golden Triangle," Visual Capitalist, April 6, 2017, http://www.visualcapitalist.com/re-awakening-golden-triangle/.
[84] "The Re-Awakening of the Golden Triangle."
[85] One of the key grounds for what has been deemed the "Reawakening of the Golden Triangle" has been the supply of energy provided by the Northwest Transmission Line; the line reportedly having 'electrified' the region. This rhetoric suggests that the project animated an otherwise dormant landscape. Such notions draw on long-standing associations between electricity and life---claiming that that by electrifying the north, the line will enliven a passive landscape, bringing it into step with the contemporary economies.

abandonment of the extension and the success of the highway, it is notable that during the 1950s and 60s, when both projects were in the midst of planning, debate and construction, the hegemonic position of rail in freight transportation was being challenged by truck freighting and highways.[86] Highway 37 was the very first project to receive funds from Prime Minister John Diefenbaker's 'Roads to Resources' partnership program, which, beginning in the late 1950s, was designed to drive natural resource extraction in the north through infrastructure development.[87] The program was informed by the Prime Minister's "Northern Vision," which he first publicly articulated at the inauguration of the Conservative Party's election campaign in Winnipeg on February 12, 1958:

> "This national policy will create a new sense of national purpose and national destiny. One Canada. One Canada, wherein Canadians will have preserved to them the control of their own economic and political destiny. Sir John A. Macdonald gave his life to this party. He opened the West. He saw Canada from East to West. *I see a new Canada—a Canada of the North*."[88]

Believing that "the North's time [had] come," Diefenbaker viewed its development as a "completion of the Confederation," and, inspired by John A. MacDonald, intended to materialize this nationalist vision through infrastructure.[89] His ambitions involved plans to "open that Northland for development by improving transportation and communication and by the development of power, by building access roads."[90] The northward expansion of these networks

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[86] Taylor, "The Bennett Government's Pacific Northern Railway Project and the Development of British Columbia's 'Hinterland,'" 37. 37
[87] Peyton, *Unbuilt Environments*, 2017, 202.
[88] Sherrill E Grace, *Canada and the Idea of North.* (Montréal: McGill-Queen's University Press, 2014), 67.
[89] John G. Diefenbaker, "Broadcast portion of a speech delivered by the Prime Minister, the Right Honourable John G. Diefenbaker, in the Civic Auditorium, Winnipeg, Manitoba, Wednesday, February 12, 1958, as broadcast by Radio Station C.K.Y. Winnipeg," Diefenbaker Canada Centre. Series VII, Vol. 165, National Development-1958-1960, quoted in Philip Isard, "Northern Vision: Northern Development during the Diefenbaker Era" (Master's Thesis, University of Waterloo, 2010), 60.
[90] John G. Diefenbaker, "Broadcast portion of a speech delivered by the Prime Minister, the Right Honourable John G. Diefenbaker," quoted in Isard, 60.

was intended to bolster the Canadian economy after the recession of the late 1950s, and stem the influence of foreign interests and economic integration with the United States. Since the geographic marginality of northern regions posed challenges to these development goals, transportation and communication became key sites of investment. The context of the Cold War also contributed to the strategic significance of the north, which Diefenbaker emphasized by drawing on nationalist sentiments, as well as a long and intertwined history of mining and war.[91] By making available the "vast resources undeveloped and hidden in the earth," he sought to forge a "shield of freedom" that would "contribute to the survival of the free world" in the face of Communism.[92]

Construction of Highway 37 began in 1958 but slowed, along with northern development in general, following Deifenbaker's 1963 defeat by Lester B. Pearson's Liberal Party. Northwestern BC remained largely roadless until 1972, with the completion of a large stretch of the highway that runs along the Iskut River to Cassiar, and into the Yukon before connecting to the Alaska Highway. From the mid-1970s to 1990s, the highway was mostly used by small scale logging companies and the Cassiar Asbestos mine, located 550 kilometers north of Stewart.[93]

Green infrastructure

While the imperial project of the Collins Overland Telegraph attempted to link geographically dispersed colonies through electrically-transmitted information, the post-war settler colonial infrastructural developments, typified by railways, dams, and highways, sought to bolster the sovereignty and economic prosperity of Canada as a nation-state. Investment in infrastructure continues to be positioned by the federal government as "key to building Canada

[91] Matthew Farish and P. Whitney Lackenbauer, "High Modernism in the Arctic: Planning Frobisher Bay and Inuvik," *Journal of Historical Geography* 35, no. 3 (July 1, 2009): 517–44.
[92] D. Owen Carrigan, *Canadian Party Platforms 1867-1968,* (Toronto: Copp Clark, 1968), 226–32.
[93] Peyton, *Unbuilt Environments*, 2017, 67.

for the 21st century."[94] Its construction promises labour opportunities in the short-term, while the flow of commodities, resources, and services generated by transportation and communication networks suggest long-term growth. These recognized benefits have led governments worldwide to turn to joint infrastructure projects as the leading policy response to global recessions.[95]

Following the 2008 financial crisis, the federal Conservative government created a stimulus package that included, according to Prime Minister Stephen Harper, "the largest infrastructure renewal effort in this country in over half a century"—that is to say, since Diefenbaker.[96] This 2009 Economic Action Plan featured a $4 billion Infrastructure Fund, of which $1 billion was allocated to a Green Infrastructure Fund to finance projects that promote "cleaner air, reduced greenhouse gas emissions, and cleaner water."[97] Such endeavours include improvements to wastewater treatment facilities, the installation of smart grids, and investment in transportation such as rail lines. Proponents of this kind of investment argue that it is particularly significant given the long lifespan of physical infrastructure; choices made about the construction of such systems have the effect of "locking-in" energy-intensive and fossil fuel-dependent economies and social relations, and embedding them into the built environment for decades, if not longer.

Electricity

"Nature's powerhouse: It's hard to believe that the simple electron can have such a huge effect on the future of northern BC. These charged particles—which the human eye cannot see—are

[94] "Infrastructure Canada," Government of Canada, May 14, 2018, https://www.canada.ca/en/office-infrastructure.html.
[95] Penny Harvey and Hannah Knox, *Roads: An Anthropology of Infrastructure and Expertise*, Expertise: Cultures and Technologies of Knowledge (Ithaca, NY: Cornell University Press, 2015), 6.
[96] CBC News, "Harper Lays out Stimulus Spending in Progress Report," *CBC*, June 11, 2009, https://www.cbc.ca/news/business/harper-lays-out-stimulus-spending-in-progress-report-1.785129.
[97] "Northwest Transmission Line in British Columbia," Backgrounder (Ottawa: Office of the Prime Minister, September 2009).

stirring northern imaginations. Send enough of these electrons northward and you end up giving the economy a positive charge."[98]

Northwest Powerline Coalition, *Energizing Northern BC's Economy*.

Electricity is iconic of modernity. Relative to other forms of natural resource exploitation, hydroelectricity provides "perhaps the most versatile reservoir of symbolic meaning that can be accessed by political power."[99] This versatility led to the evocation of conflicting rationales for the Northwest Transmission Line. The first was to promote the line as an electrification project that would—like the Dease Lake extension, and the Roads to Resources Program—open the northwest to mining, giving an "economic jolt" to the province.[100] This was the only rationale that had been articulated when the transmission line was first given the green light by the provincial government in 2007. At that time, two mining companies—Teck Cominco and NovaGold, who each had a stake in the mining project at Galore Creek—were signed on to contribute $158 million to the line's construction costs, originally estimated at $404 million.[101] They pulled their funding two months later, claiming that escalating costs were rendering the Galore Creek project unviable, and the transmission line was put on hold. Less than a year later, BC Premier Gordon Campbell announced that the provincial Liberal government would invest $10 million into restarting the environmental assessment process for the line. Campbell insisted that by providing power to at least ten proposed mining projects in northwest BC, the line would pay for itself, generating $15 billion dollars of investment to the northwest and providing 30,000

[98] Northwest Powerline Coalition, *Energizing Northern BC's Economy*, 2010, https://www.youtube.com/watch?v=kVe915Cykyw.
[99] Desbiens, *Power from the North*, 3.
[100] Justine Hunter, "Power Line Promised for B.C. Northwest," *The Globe and Mail*, September 17, 2009.
[101] Kyla Tienhaara, *Green Keynesianism and the Global Financial Crisis*, Routledge Studies in Environmental Policy (New York: Routledge, 2018), 99.

jobs.[102] Given the desirability of the northwest for mineral mining, extending grid power to bolster the extractive economy became a central goal of the Liberal government.

The other rationale for the Northwest Transmission Line was first articulated in May of 2009, by Northwest Powerline Coalition—a lobby group comprised of mining companies and local government representatives, and sponsored by the Mining Association of BC—in a report entitled "Delivering Green Power to Northern British Columbia." [103] The report claimed to reevaluate the merits of the Northwest Transmission Line and outlined not only economic but also environmental benefits, citing figures to indicate that the line's "clean" power would lead to reductions in greenhouse gas emissions.[104] Part of the rationale behind this was the expectation that the line would further open the northwest to future hydroelectric projects, which would then in turn sell power back to the grid. In a funding application to Infrastructure Canada, the BC Transmission Corporation—which has since merged with BC Hydro—positioned the Northwest Transmission Line as a green infrastructure project, suggesting that by linking remote communities to the grid, it would reduce the use of diesel generated power, and thus greenhouse gas emissions.[105]

The reliance on diesel to generate power is often invoked in Canada as a technological index of an infrastructural lack in many remote communities, and referred to by some as a form of "energy poverty."[106] Critics of the Northwest Transmission Line argued that other, more economically efficient and environmentally beneficial options for providing the town of Iskut's

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[102] Christopher Pollon, "Northwest Power Line Grows, So Does Controversy," *The Tyee*, July 18, 2011, http://thetyee.ca/News/2011/07/18/NorthwestTransmissionLine/.
[103] Tienhaara, *Green Keynesianism*, 100. 100
[104] Tienhaara, 100.
[105] Though this reason was widely promoted, the initial designs for the transmission line did not include plans to extend the line to Iskut.
[106] "Push to End Energy Poverty in Indigenous Communities Underway," The Globe and Mail, November 23, 2016, https://www.theglobeandmail.com/news/national/the-push-to-end-energy-poverty-in-indigenous-communities/article33012480/.

approximately 350 residents with clean power—local wind, geothermal, or solar power, for example—were never significantly considered.[107] Instead, the BC Transmission Corporation tied the promise of modernization brought by grid power to that of a more sustainable future, contending that moving Iskut alone off diesel would reduce emissions by 2,800 tons of carbon dioxide per year--the equivalent of taking 735 cars off the road.[108] In a footnote to their funding application, the company clarified that electrifying Iskut would actually require an extra distribution line at the cost of $8 million, and that the other two communities in the area—Dease Lake and Telegraph Creek--could not be connected at all.[109] Infrastructure Canada approved funding for the project, and the Northwest Transmission Line received the largest green infrastructure grant under Stephen Harper's stimulus package, with the condition that the extra extension to Iskut be built within twelve months after the line's completion.[110]

The unique success of the Northwest Transmission Line in a landscape otherwise known for failed development may be attributed in part to its mobilization of two seemingly conflicting rhetorical positions. The promise of economic growth through energy-intensive resource extraction was wed with that of a de-carbonized future, both imaginatively and materially, through the framing, financing, and construction of the transmission line as an example of green infrastructure.

Considering the construction of the Northwest Transmission Line through the lens of techno-politics—that is, the development, design, and use of technology to enact political goals—reveals the political rationale that drove the project. Though the transmission line now

[107] Dogwood Initiative, "Citizen's Guide to Effective Engagement on the Proposed Northwest Transmission Line."
[108] "Green Light for the Northwest Transmission Line," BC Government News, Energy, Mines and Petroleum Resources, May 6, 2011, https://news.gov.bc.ca/stories/green-light-for-the-northwest-transmission-line.
[109] Tienhaara, *Green Keynesianism*, 101.
[110] Tienhaara, 99, 103.

connects Iskut to the grid, the manner in which it materially distributes power over space—in high voltages across long distance—was designed from the beginning to serve the needs of large-scale extractive industry. The line carries 287 kilovolt power, which must be transformed to a lower voltage to accommodate residential or small to mid-scale commercial users. Access to the line's power is dependent upon customers' ability to build their own substations in order to do this—a condition which requires large sums of capital investment.[111] This material configuration reveals the politics embodied in the transmission line as a means of facilitating resource development and powering extractive industry.

The pursuit and extraction of minerals, and the communications and transportation infrastructures implemented to facilitate these processes, bear material traces of the political, economic, and colonial forces that have shaped the region since settlers first arrived in Tahltan territory. While placer gold mining booms shaped the contours of the province in the nineteenth century, today's mineral extraction industry, connecting the region to commodity markets and consumption patterns, relies on the availability of cheap power. The Northwest Transmission Line is the infrastructure of that cheap power, but that is not the only sort of power it distributes. As I will show in the following chapters, it also distributes political, material, and social power, the costs of which are cheaper for some than others.

[111] "Small Businesses Unable to Tap into Northwest Transmission Line," CBC News, accessed April 26, 2017, http://www.cbc.ca/news/canada/british-columbia/northwest-transmission-line-too-expensive-for-small-business-1.2694166.

Chapter 2 - Konelīne & Infrastructural Poetics

During the construction of the 344-kilometer Northwest Transmission Line in Tahltan territory, filmmaker Nettie Wild was shooting footage for the documentary *Konelīne: Our Land Beautiful*, which offers a unique record of the landscape and some of the lives entangled in this infrastructural development. Like this thesis, the film explores the relationship between energy transmission and mineral extraction in northwest BC. It brings an sympathetic lens to its various subjects, who have differing interests, desires, and positions on the land, and shows both the senses of possibility and loss that take shape through the transmission line and the extractive projects powered by it, as these unfolded across the landscape.

This chapter proceeds in three parts. First, I will explore how the depiction of the transmission line in *Konelīne* communicates what Brian Larkin calls "the poetics of infrastructure": what meaning it is shown to hold for both Indigenous peoples and settlers, as well as the sensory and affective experiences conditioned by the presence of the massive steel towers and wire. Rather than relying on a conventional narrative structure, the film is conceived as a series of vignettes depicting various subjects and their relation to the land, including linesmen, guide outfitters, and a Tahltan linguist. The transmission line acts as a thread that weaves these stories together across the landscape; its construction serves as the structuring tension of the film.

The second part of this chapter examines two key sequences in the film, depicting extractive activities in the region. The first shows drillers and geologists at the Brucejack mine, a gold and silver exploration site high in the glaciated Coast Mountains, where the workers spend their days in the clouds, reading rocks, translating the imprints of geological sedimentations into geo-science data for the purposes of financial speculation and investment. The second sequence,

at a lower latitude, documents the blockade of a service road to the Red Chris copper and gold mine. The blockade, formed by group of Tahltan elders and community members concerned about the threat of tailings contamination, was prompted by the catastrophic tailings breach that occurred at the Mount Polley mine in the central interior, which was owned and operated by the same company, Imperial Metals. Here I explore the role of blockades as a political technology within settler colonial spaces, as well as how tailings ponds mark extractive landscapes. I suggest that this scene brings into view what Rob Nixon has termed the "slow violence" of extractive activity.

In the interest of marrying content to context,[112] the third part of the chapter will consider some of the issues the film raises in regards to representational practices in settler colonial contexts. As a cultural artifact, *Konelīne* is conditioned by the settler colonial context of Canada, and its documentary film industry. Filmmaker Nettie Wild is a settler and outsider to the Tahltan communities represented in her film, and her approach received both praise and critique in this respect.

Konelīne does not follow the model of a conventional activist documentary that seeks to inform its audience and provoke action. It is also not conceived as a traditional narrative. According to Nettie Wild, the film contains "a very different story structure than following one person through a challenge that he or she has to face": instead, "the main character is the land."[113] To cast the land as the protagonist, *Konelīne* is structured as a composite of vignettes portraying a range of subjects and their relationships to it. To bring the land into view, the film

[112] Ezra Winton, "A Structured Inequity: Further Reflections Following Hot Docs 2017 on Indigenous Representation in Canada's Documentary Industry," *Point of View Magazine*, May 19, 2017, http://povmagazine.com/articles/view/a-structured-inequity.
[113] Judith Lavoie, "Art in the Heart of Controversy: Konelīne Cuts Through Rhetoric About Resource Extraction," *DeSmog*, November 25, 2016, https://www.desmog.ca/2016/11/25/art-heart-controversy-konel-ne-cuts-through-rhetoric-examine-our-complex-relationship-resource-extraction.

features extended aerial shots of the landscape, close-ups of geological formations and animal and plant life, as well as a soundscape composed of mostly diegetic environmental sounds.

The film opens with a bird's-eye view shot sweeping across a deep green, forested landscape, which is then interrupted by a mineral claim map overlaid in the foreground. This superimposition immediately introduces the viewer to some of the conflicting ways of seeing in the northwest. To the Tahltan, this region is the Tl'abāne, or the Sacred Headwaters, where the major salmon bearing rivers of the Skeena, the Nass, and the Stikine meet. To the extractive industry, it is the Golden Triangle, one of the most mineral rich gold and silver deposits in the world. The cadastral information superimposed over the aerial landscape shows viewers what Macarena Gómez-Barris calls the "extractive view," which "sees territories as commodities, rendering land as for the taking, while also devaluing the hidden worlds that form the nexus of human and nonhuman multiplicity."[114] Similar to the colonial gaze, the extractive view facilitates the reorganization of "territories, populations, and plant and animal life into extractive data and natural resources for material and immaterial accumulation."[115]

Poetics of Infrastructure

There are many dimensions through which infrastructures contain meaning and structure politics. *Konelīne* casts the land as its central protagonist, while the Northwest Transmission Line, being strung across the landscape, acts as its structuring tension. Here I consider how the transmission line is represented in the film, following what Brian Larkin has termed the "poetics of infrastructure."[116] In order to articulate how infrastructures operate in this poetic mode, Larkin draws on literary theorist Roman Jakobson, who outlines the poetic as one of six different

[114] Macarena Gómez-Barris, *The Extractive Zone: Social Ecologies and Decolonial Perspectives*, Dissident Acts (Durham London: Duke University Press, 2017), 5.
[115] Gómez-Barris, 5.
[116] Larkin, "The Politics and Poetics of Infrastructure."

functions in any speech act.[117] A speech act is poetic when it is "organized according to the material qualities of the signifier itself rather than to its referential meaning"; that is, where the "palpability of the sign" serves as a speech act's determining function.[118] Considering this poetic mode as it applies to infrastructure involves looking at form "loosened from technical function" and emphasizing the aesthetic functions of an infrastructure rather than its technical ones.[119] In the case of the Northwest Transmission Line, this involves investigating the line's transmission of high voltage power, and attending to its aesthetic and sensory qualities.

Susan Leigh Star wrote that infrastructure is "by definition invisible."[120] Grid electricity, particularly in dense urban environments, is exemplary of this kind of infrastructural invisibility: ready-to-hand and perceptible only upon breakdown.[121] *Konelīne* shows an alternative experience of electrical infrastructure, by documenting the line during its construction. At this point in time, residents had not yet experienced the transmission line through its function of providing power. Instead, its massive towers and wire, as well as the construction crews and machinery used to install them, are experienced as a new presence on the landscape that seems to anticipate a future divergent from the past.

For guide outfitter Heidi Gutfrucht, the transmission line and the development it promises for the area are bad for business: "what we sell is wilderness. Gotta get away from people."[122] In the first scene of Heidi she drives in her truck along Highway 37, hauling her dog and horses north to Telegraph Creek. She explains the logistical reality of her industry, "I'd love to live here year round, but it's cheaper to take the horses to the feed than the feed to the horses."[123] Stopping

[117] Larkin, "The Politics and Poetics of Infrastructure."
[118] Larkin. 335
[119] Larkin. 336
[120] Susan Leigh Star, "The Ethnography of Infrastructure," *American Behavioral Scientist* 43, no. 3 (1999): 380.
[121] Star, "The Ethnography of Infrastructure."
[122] Nettie Wild, *Konelīne: Our Land Beautiful*, DVD, Documentary (Canada Wild Productions, 2016).
[123] Wild.

at a gas station to fill her tank, she laughs, "There's another hundred bucks."[124] As the camera drives with Heidi down the highway, viewers are given a sense of the distance between this remote space and any commercial centers. As helicopters fly overhead carrying steel transmission towers through the sky Heidi gestures towards them, saying, "once the people come, the wildlife disappears. Some people call it progress."[125] The encroachment of electrification, a key emblem of modernity, threatens the status of this space as "wild," thus potentially undermining its value to hunters and tourists as untouched and unpeopled. As someone who trades in precisely this experience, the transmission line is conveyed as representing a threat to Gutfrucht's livelihood. However, looking once again at a tower flying through the sky, she smiles conveying a good humored sense of resignation, adding, "Here we go, eh?"[126]

Labour plays a prominent role in the film. One scene shows a group of lineworkers threading wires between utility poles along the side of the highway. From the top of a cherry picker, one of them recounts plainly all the places he has installed electrical power: "PEI, Nova Scotia, Newfoundland, Ontario, Saskatchewan, Alberta, Detroit, Chicago, New York, Boston… Oh yeah, I worked in Quebec too during the ice storm down there."[127] For this lineworker, the northwest seems to be simply another region among many to be inevitably electrified. He does seem struck, however, by the accelerated pace of grid expansion, remarking, "I've never seen so much line work as what's going on right now—transmission lines built *everywhere*." "Need more power," he reflects matter-of-factly.[128]

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[124] Wild.
[125] Wild.
[126] Wild.
[127] Wild.
[128] Wild.

A decisive scene of *Konelīne* captures, over four minutes, the installation of one of the 9.5-tonne, 27-meter-high steel transmission towers. A massive helicopter enters the frame carrying a tower through the sky and across a clear-cut mountainside. As it descends towards toward the ground the tower is met by about two dozen linesmen who struggle against the wind produced by the helicopter, the debris it whips up, and the massive weight of the steel towers. As four linesmen attempt to lead the base of the tower into to the pre-constructed foundation, others string the supporting guy-wires surrounding the towers' foundation. The scene impresses on audiences the labour involved in installing large-scale infrastructure, while the camera itself seems to be captured up by a sense of technological sublimity at the towers' scale, strength, and movement.

Konelīne offers a perspective into the poetics of the transmission line through its portrayal of how people are moved by the line's presence. The range of affects evoked by the transmission line reveals what kind of semiotic object it is for a range of subjects. Perhaps because the film was shot during its construction, the line's presence seems to be met with a general sense of resignation. Though the film depicts a moment when the line's construction is underway, the outcome of the electrification project--whether it will indeed open the floodgates of mining projects--remains uncertain.

To describe another approach to infrastructural poetics Larkin draws on the Aristotelian concept of *aisthesis*--a "bodily reaction to a lived reality"—to explore the "embodied experience governed by the ways infrastructures produce the ambient conditions of everyday life."[129] Larkin articulates this mode of infrastructural poetics as the "production of ambient experience," which involves the ways that infrastructures condition sensory perception through temperature, light,

[129] Larkin, "The Politics and Poetics of Infrastructure," 336.

speed, and sound. His examples of this mode are drawn from ethnographic research. However, proponents of visual and sensory ethnography, who seek to convey forms of affective experience, often do so through the medium of film. For Lucien Casting-Taylor of Harvard's Sensory Ethnography Lab, "Film is a sensory medium, nearly as much as the human subject is a sensory being."[130] As such, it is a medium uniquely able to "capture the lyricism of lived experience," in a way that likens it to poetry, rather than the prose of textual ethnographic work.[131]

Konelīne, which describes itself as "visual poetry" presents an ambient and sensory experience of the transmission line through both sight and sound.[132] The line and its towers are shot from a variety of perspectives, which together provide a composite impression of its scale. Aerial shots show lengths of the line strung across spectacular stretches of the landscape, while ground-angle shots gaze upward at it from below one of its massive steel towers.

Figure 5. View from below transmission tower. *Konelīne*

[130] Lucien Castaing-Taylor, "Iconophobia," *Transition* 69 (1996): 75.
[131] Castaing-Taylor, 88.
[132] "KONELĪNE: Our Land Beautiful," Canada Wild Productions, accessed May 10, 2018, https://www.canadawildproductions.com/film/koneline/.

Many of these scenes are set to the low humming noise of electrical fields, encouraging the viewer to associate the line with this sound commonly heard in the vicinity of high voltage power. Though electrical fields not generally accessible to our sense of hearing, audible sound is often emitted from high voltage lines. This electrical discharge is exacerbated by wet environments--like that of the northwest--as water increases the conductivity of the air and the resulting discharge. In the film, this resonating hum of the high voltage line's electrical discharge is used in shots where the line is visually absent. For example, the sound surfaces during close-up shots of Tahltan linguist Oscar Dennis explaining the importance of the Tahltan language and its connection to land. This juxtaposition creates a sense of what Lucien Casting-Taylor calls an "aesthetic tension" between the auditory and visual elements of the scene.[133] The electrical hum is used to communicate the transmission line's background presence on the landscape, even in its immediate absence. This presence-in-absence is also evoked through the pulsing sound of helicopter blades, which recall transmission towers being flown through the sky.

In *Konelīne*, the Northwest Transmission line is an index of impending extraction. This is revealed through aforementioned shots of Dennis that feature the hum of electrical discharge. The film shows Dennis's way of life in his territory as being threatened by the installation of the transmission line and the extractive future it seems to promise for the region. Looking over a still body of water at dusk, he laments, "this is done. We're done. The monster is here. It's over. This is no longer a peaceful haven for me. This is the potential for industrial wasteland."[134] While deeply troubled by the industrial development projects affecting the landscape, he also acknowledges the constraints faced by his community: "what I grew up with and what I knew is

[133] Scott MacDonald, *American Ethnographic Film and Personal Documentary: The Cambridge Turn* (University of California Press, 2013), 320.
[134] Wild, *Konelīne*.

over. We need the mine. That's the reality."[135] Such transformations to the land are shown to reorient Dennis's position in relation to it, as he says, "I don't know how long I can stay here. I just don't feel that I fit any longer."[136] In these scenes, the arrival of the transmission line and the imminent opening of the Red Chris mine are depicted as sources of irrevocable transformation and loss.

Scenes of Extraction

The film features two mineral extraction projects whose existence is conditioned by the reliable and affordable power source provided by the Northwest Transmission Line: Pretivm Resources' Brucejack Mine, and Imperial Metals' Red Chris Mine. In the film, each was documented at a different phase of the mining cycle: Brucejack in its exploration phase, and Red Chris set to move from construction into production but facing resistance from a group of Tahltan elders and community members.

The film's first depiction of extraction takes place at the Brucejack exploratory drilling site, high in the Coast Mountains. Brucejack—which has since gone into operation as a high-grade gold mine—is located in the Golden Triangle, approximately 65 kilometers north-west of Stewart, and is connected to Highway 37 by a 73-kilometer access road. The film captures some of the challenges of installing infrastructure and machinery in a dynamic and volatile glacierized environment, as well as the role of exploration and drilling in fueling speculation and investment.

The sequence features interviews and voice-over narration by three workers--a plow truck driver, a driller, and a geologist--but relatively few other labouring bodies are visible at the remote drill site. The presence of extractive activity is more palpably expressed through the hum of machinery, the resonating echoes of clanging steel, and the sloshing of liquid lubricants

[135] Wild.
[136] Wild.

overflowing from drilling machines as they lift core samples from deep underground. One shot shows a Pretivm worker driving a massive plow over the snowy landscape. Reflecting with pride on the unique way he spends his days, he boasts, "it's certainly not a widget factory. I work up in the clouds."[137]

High above the tree line, the exploration site sits in a valley surrounded by glaciers and icefields. An environmental assessment conducted by Pretivm noted at the outset that "any project undertaken in glaciated regions…needs to be cognizant of the dynamic and complex response of glaciers to climate."[138] One of the workers explains that "it used to be a fly camp only. Now we have a twelve kilometer chunk of road that goes over a glacier."[139] This explanation, alongside the presence of such heavy machinery in this vulnerable environment, evokes a sense of unease. While the health of the glacier is threatened by the presence of this industrial activity, the workers face a corresponding precarity, as the volatile nature of the glacierized environment threatens the safety of the road they rely on. This fragile relationship is suggestive of the mutual vulnerability of organism and environment.

The glaciated work site is portrayed as a highly dynamic space. Environmental sounds such as rushing water communicate accelerating ice and snow melt, and the changing nature of the environment. A geologist's voice tells the camera, "you don't think of the glacier moving, but it moves for sure—hourly changes sometimes."[140] The next shot captures a large ice sheet from a wide angle, and a voice-over explains, "when the sun hits the ice, you have to be okay with change."[141] As the frame cuts to a shot showing a deep blue crevasse in the glacier with

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[137] Wild.
[138] ERM Rescan, "Brucejack Gold Mine Project: Potential Interactions between the Glacier Section of Brucejack Access Road and Knipple Glacier Ablation." (Vancouver, British Columbia: Pretivm Resources Inc., 2014), 16, https://www.ceaa-acee.gc.ca/050/documents/p80034/99786E.pdf.
[139] Wild, *Konelīne*.
[140] Wild.
[141] Wild.

water rushing into it, he continues, "You'll go down at the start of your day, come back up, and all of a sudden you'll have a hole; throw a rock in there and you can't even hear the bottom."[142] What allows for one to be "okay with change" is left out of the film: namely, the ability of those overseeing the operation to register, record, and respond to the changing environment.

The Coast Range has experienced a significant loss of glacier volume over the past two decades.[143] Maintaining the road atop the receding Knipple glacier requires tracking the glacier's movements, which involves a set of elaborate monitoring techniques and technologies.[144] Radar is used to measure ice thickness, providing information as to the glacier's volume, and indicating whether it is likely to shift and impact the road. A network of stakes with sensors is used to monitor the glacier's subsurface topography, registering changes in position, surface elevation, speed of flow, and ablation, while further surveying is conducted from above using GPS monitoring.[145]

At the mountaintop site, Pretivm geologist Mike Shannon sits in front of the camera, holding a rock in his hands. "This rock is 192 million years old," he says. Keenly explaining the geological processes that have shaped the region, he continues, "the Pacific plate is subducted under British Columbia, and this Jurassic volcanic system has been accreted, thrust up onto North America, deformed and uplifted over geological time, and we can see it here right on the surface at Brucejack."[146] These millennia-long processes narrated by Shannon contrast with time-lapse shots of the exploration site. Clouds and fog, whose movements are ordinarily slow and less perceptible, rush through the air, casting fleeting shadows across the snow. Days and

[142] Wild.
[143] ERM Rescan, "Brucejack Gold Mine Project," 15.
[144] ERM Rescan, 25.
[145] ERM Rescan, "Brucejack Gold Mine Project."
[146] Wild, *Konelīne*.

nights pass rapidly, and the blues, purples and greens of the northern lights flash across the night sky.

This acceleration conveys a frenzied sense of time over the landscape, illustrative of what Gómez-Barris calls the "frenetic timescape of extraction."[147] This timescape is in tension with the elongated sense of geological time described by geologist Shannon. Sandro Mezzadra and Bret Neilson argue that mineral extraction gives rise to a "scrambling of time," as "sedimented in the deep time of geological processes, extracted minerals are thrust into industrial applications and have become essential elements in the devices and infrastructures that enable even the most recent developments in new media."[148]

This scrambling of time extends through the lives and afterlives of such devices and infrastructures. As Jennifer Gabrys articulates in her work on the material geographies of electronic waste, materials used in the production of electronic devices "are caught in a tension between the quick and the slow."[149] As consumer objects, they circulate in "accelerated networks of production and consumption"; as waste, they accumulate and endure. These overlapping timescales result from the fact that while these materials have extraordinary endurance—as mountains of waste accumulate in landfills, oceans, and cities, altering geographies—they have also been essential to the "emergence of new orders of ephemerality," driven by the imperatives of speed, turnover, and disposability.[150] In other words, "ephemerality can only hold at one level; it instead reveals new spaces of permanence."[151] At Brucejack, minerals accreted underground over millennia are rapidly thrust to the surface, drawn into networks of production and

[147] Gómez-Barris, *The Extractive Zone*, 17.
[148] Sandro Mezzadra and Brett Neilson, "On the Multiple Frontiers of Extraction: Excavating Contemporary Capitalism," *Cultural Studies* 31, no. 2–3 (May 4, 2017): 4.
[149] Jennifer Gabrys, *Digital Rubbish: A Natural History of Electronics* (Ann Arbor: University of Michigan Press, 2013), 87.
[150] Gabrys, 88.
[151] Gabrys, 88.

circulation to enable the brief operation of ephemeral devices, and discarded as waste, to accumulate in landfills and form new geologies.

Speculation

Back at Brucejack, core samples are brought to the surface and read for mineralizations that might indicate the value of underground deposits. Through this process, it becomes clearer how the temporalities of extraction are mediated by financial speculation. Turning a core sample over in his hands, geologist Mike Shannon explains, "You're still working more in speculation on the exploration side, versus the reality of the production side."[152] In *Imperial Canada Inc.*, Alain Deneault and William Sacher argue that "mining is particularly well adapted to the culture of speculation because from a geological viewpoint, evaluation of deposits is itself a speculative exercise."[153] Within this extractive economy, there are reciprocal relationships between geological exploration data, political regulations, and financial markets which make it impossible to disentangle "speculation on mineral resources, which are assessed on the stock exchange for purposes of exploitation, from purely financial speculation on the predicted value of shares traded on the markets."[154] This entangled relationship between seemingly immaterial financial speculation and the materiality of mineral exploration is evoked in *Konelīne*, as the voice of a Brucejack worker describes the suddenness with which mineral data can affect extractive economies: "It just takes a couple of holes with a decent hit, and then *boom*! The stock shoots right up."[155] Mining has long since been associated with risk, chance, and gambling. This association is both geophysical—since value is stored underground, out of sight, it must be

[152] Wild, *Konelīne*.
[153] Alain Deneault and William Sacher, *Imperial Canada Inc.: Legal Haven of Choice for the World's Mining Industries*, trans. Robin Philpot and Fred A Reed (Vancouver: Talonbooks, 2012), 103.
[154] Deneault and Sacher, 103.
[155] Wild, *Konelīne*.

imagined—and financial. Investing in mines often involves mobilizing 'risk capital', so called due to the high-risk, high-reward nature of industries that often result either in spectacular returns or major losses.[156] This risk is a key element of the appeal of mining investment. In *Konelīne*, the camera pans across core samples as a worker's voice reminds us that "people love the idea of ten dollars turning into ten thousand."[157]

This scene is illustrative of what Anna Tsing calls the "magical vision" of frontier rationality.[158] She explains that frontier zones require those invested in them to participate in a kind of "magical vision," which involves "seeing a landscape that does not exist."[159] Indeed, in speculative enterprises like mineral exploration, "profit must be imagined before it can be extracted."[160] The film sequence at Brucejack illustrates how this magical vision comes into being. As a worker remarks, "You can dream with exploration… Reality is only reality. Speculation is endless."[161] The reflections of the Pretivm workers reveal how such endless speculation is materialized through exploratory projects that seek to produce geological information alongside speculative financial investments. The inclusion of this sequence in the film illustrates how the presence of the Northwest Transmission Line is capable of generating value not only through its technical and physical transference of energy—which literally fuels extraction—but also through the forms of possibility and therefore speculation that it opens, which generate value in and of themselves.

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[156] Deneault and Sacher, *Imperial Canada Inc.*, 24.
[157] Wild, *Konelīne*.
[158] Anna Lowenhaupt Tsing, *Friction: An Ethnography of Global Connection* (Princeton, N.J.: Princeton University Press, 2005), 68.
[159] Tsing, 68.
[160] Tsing, 57.
[161] Wild, *Konelīne*.

Blockades and Containment

A different perspective on the relationship between transmission and extraction is presented in a later sequence of *Konelīne*, which documents a blockade established by a group of Tahltan to cut off access to a supply road to Imperial Metals' controversial Red Chris copper-gold mine. Red Chris was planned to be the first operation to tap into the newly constructed Northwest Transmission Line. The two projects together produced a kind of reciprocal inertia: the transmission line needed Red Chris, and Red Chris needed the transmission line.

During the summer of 2014, as Red Chris was set to move from construction to production, a catastrophic tailings breach occurred at another of Imperial Metals' copper-gold mines—the Mount Polley mine, located in the central interior of BC, in the territory of the Secwepemc Nation, south of Tahltan territory.[162] News of the disaster spread, and palpably brought to the forefront of local and public attention the threat posed by tailings breaches and the risk of toxic contamination, given the hundreds of other tailings storage facilities that exist in BC. At Red Chris, Imperial Metals had planned to use to the very same design as had been in use at Mount Polley when the breach occurred.[163]

The blockade sequence in *Konelīne* begins with an aerial shot of a tailings pond, where a large dam holds in aquamarine liquid from the surrounding landscape. A voice-over says forebodingly, "We're not looking at *if* the tailings pond breaks. We're looking at *when.*"[164] The camera then cuts to a dirt road, where a group of Tahltan stand obstructing the Red Chris supply

[162] Jerome Turner, "After Mount Polley: 'This Is Indigenous Law,'" The Tyee, February 7, 2015, http://thetyee.ca/News/2015/02/07/After_Mount_Polley_Indigenous_Law/.
[163] Christopher Pollon, "What's Changed on the Ground Since the Mount Polley Mine Disaster?," *The Tyee*, April 12, 2017, https://thetyee.ca/News/2017/04/12/Mount-Polley-Disaster-Changes/. Unlike Mount Polley's tailings, however, which were classified as relatively benign, the waste generated by Red Chris is vulnerable to acid rock drainage—which can occur when rock which has been crushed, or made to have new surfaces open to air, reacts with the sulphur containing compounds in the rock, reacting with the air and water to create sulphuric acid. This acid then leaves into watersheds, threatening human and nonhuman life.
[164] Wild, *Konelīne*.

road. As a truck comes down the road toward them, members of the blockade begin to drum as a truck pulls toward them, carrying two representatives from Imperial Metals and a police officer.

"Who are you, and what are you doing here?" asks one of the blockaders.

"My name is Tim Nearing. And what are your names?" responds the Imperial Metals representative.

"We're asking you," she replies firmly. "What's your position up here?"

"Mine operations superintendent," he answers.

"We've heard many things about the tailing pond up here. We're very concerned. Is it the same design as what was used at Mount Polley? There's no way that's ever happening in our territory," she says.

"I won't get into the *technical* details of how that dam is being built up there," Nearing sneeringly responds, as if technical matters were outside the realm of dispute or political life.[165]

"We're not letting this truck by," she counters.

Geographer Nicholas Blomley defines a blockade as "an attempt to interfere with the flow of people and/or commodities through the placement of an obstruction, either partial or complete."[166] Blockades are used in direct action and civil disobedience. They tend to involve using one's body along with other objects and structures to form a barrier in an attempt to cut off supplies, materials, people, and communications from a particular area. As logistical power is becoming increasingly recognized as central to the functioning of global colonial capitalism—illustrated in the work of Deborah Cowen, Charmaine Chua, and Laleh Khalili—blockades have been more widely adopted in counter-hegemonic struggles as a tactic for impending flows of

[165] Andrew Barry, *Material Politics: Disputes along the Pipeline*, 2013, http://catalogimages.wiley.com/images/db/jimages/9781118529119.jpg.
[166] Nicholas Blomley, "'Shut the Province Down': First Nations Blockades in British Columbia, 1984-1995," *BC Studies: The British Columbian Quarterly* 111 (1996): 11.

movement and the distribution of goods. The Invisible Committee, for instance, write in 2014 of a "blockading craze that now accompanies every movement of any size."[167] However, blockades have been recognized as a frequently used political technique in Indigenous resistance against colonial incursion and development, particularly in BC, since the mid 1970s.[168] In an article from 1995, Blomley wrote that "First Nations blockades have become so commonplace in British Columbia over the past two decades that they have, ironically, slipped from view."[169] Blockades are generally used to restrict movement either to garner attention and open negotiations, stop an activity, or deny access to an area. In actions of Indigenous resistance, blockades not only stem a particular movement or action, but have the further effect of challenging colonial jurisdiction by asserting Indigenous sovereignty.[170]

The blockade depicted in *Konelīne* is one among many in Tahltan history. Tahltan Elder Johnny Sincoots Clark recounts, for example, how overland travellers in the late nineteenth or early twentieth century would cut through Tahltan fishing areas with their pack trains of horses.[171] The Tahltan Chief at the time, Chief Nannock, stopped all the pack trains for two days, until the travellers, who had sought assistance from a judge and policeman, finally agreed to take a different route.[172] In 2005, a blockade was formed to prevent Shell from conducting exploratory work mapping coalbed methane deposits in the Klappan Valley—an area also known as Tl'abane, or the Sacred Headwaters, as the basin sits the confluence of three great salmon bearing rivers: the Nass, the Skeena, and the Stikine.[173] This blockade marked the beginning of a

[167] The Invisible Committee, *To Our Friends*, trans. Robert Hurley, Intervention Series (MIT Press, 2015).
[168] Blomley, "'Shut the Province Down': First Nations Blockades in British Columbia, 1984-1995," 8.
[169] Blomley, 5.
[170] Blomley, 17.
[171] Karen Clark, ed., *Tahltan Native Studies* (Dease Lake, B.C.: Stikine #87 School District, 1970).
[172] Clark, 117.
[173] Clark, 117.

prolonged battle that resulted in a moratorium on oil and gas development in the area.[174] In 2009, members of the Tahltan Nation blockaded two major hunting areas until the Minister of Environment agreed to meet with them to discuss hunting regulations in their territory.[175] In 2013, as Fortune Minerals attempted to push through the Arctos Anthracite Project—a 40,000 hectare open pit coal mine that would destroy the sacred Mount Klappan[176]—Tahltan resistance, bolstered by the *Tsilquot'in* decision, forced the provincial government to withdraw its support, which involved buying back the coal mining licenses from the company for $18.3 million.[177]

The blockade of the Red Chris service road, depicted in *Konelīne* , was enacted in response to the Mount Polley disaster, the scale of which was massive—the most devastating of its kind in Canadian history. When the tailings impoundment breached, twenty-five million cubic meters of mine waste flooded into Polley Lake, moving down Hazeltine Creek, into Quesnel Lake, through the Quesnel-Caribou water system and into the Fraser River.[178] The Independent Review Panel assembled to investigate the breach found that the "loss of containment was sudden, with no warning."[179] However, critics argued that the company had ignored a 2011 report that had found the pond was holding more water than was legally allowed.[180] The panel report states that the

[174] "Oil, Gas Development Banned in B.C.'s Sacred Headwaters," *CBC News*, December 18, 2012, http://www.cbc.ca/news/canada/british-columbia/oil-gas-development-banned-in-b-c-s-sacred-headwaters-1.1283417.
[175] Amanda Follett, "Tahltan in Standoff with Province over Hunting Rules," *The Tyee*, October 13, 2009, http://thetyee.ca/News/2009/10/13/TahltanStandoff/.
[176] Nelson Bennett, "B.C. Pulls End-Run on Anthracite Coal Project," *Business In Vancouver*, May 4, 2015, http://biv.com/article/2015/5/bc-pulls-end-run-anthracite-coal-project/.
[177] Bennett.
[178] Norbert R. Morgenstern, Steven G. Vick, and Dirk Van Zyl, "Independent Expert Engineering Investigation and Review Panel Report on Mount Polley Tailings Storage Facility Breach" (Province of British Columbia, January 30, 2015), https://www.mountpolleyreviewpanel.ca/sites/default/files/report/ReportonMountPolleyTailingsStorageFacilityBreach.pdf.
[179] Morgenstern, Vick, and Van Zyl, i.
[180] Andrea Woo and Alexandra Posadzki, "Red Flags Raised Years before B.C. Mine-Tailings Spill, Consultant Says," *The Globe and Mail*, August 5, 2014, https://www.theglobeandmail.com/news/british-columbia/bc-mine-had-issues-with-rising-waste-water-ahead-of-breach-consultant-says/article19920040/.

dam failed due to its unstable foundations, which were built on glacial till, a fine sediment far less stable than rock or soil.[181] When the foundations gave way, the liquid tailings broke through the dam, releasing 85,000 pounds of lead, 1,000 pounds of mercury, 152 tons of copper, arsenic and other toxins into the nearby lakes and groundwater.[182] The dramatic event brought to the forefront of public concern the risks of irreversible environmental damage posed not only by mineral extraction, but also mine waste storage, containment, and disposal. Across Canada, hundreds of tailings dams hold the debris of over a century of mining.[183]

Tailings ponds are container technologies that hold and store the toxic waste of generations of extractive activity. Zoe Sophia, drawing on Lewis Mumford, argues that containers have been neglected in the history and philosophy of technology. Without suggesting that containers are "inherently feminine, maternal or 'good'," she advocates for their study as a "corrective to phallic biases in the interpretation of technology and as a way of getting beyond critique of traditional western notions of space as passive, feminine, and unintelligent."[184] She explains that while tools typically coded as active receive more attention than containers and other utensils that are coded as passive, the two are in fact inseparable. This may be seen in the context of mineral extraction, where drill rigs and excavators, "dynamic machines for penetrating secrets and unlocking resources," also require tailings ponds, which form part of the "world-spanning grid of storage and distribution, containment and supply."[185]

Informed by Sofia's approach, foregrounding tailings ponds as containers in analyses of extraction produces achieves two theoretical and political aims. Firstly, by sidestepping the

[181] Morgenstern, Vick, and Van Zyl, "Report on Mount Polley Tailings Storage Facility Breach."
[182] Woo and Posadzki, "Red Flags Raised Years before B.C. Mine-Tailings Spill."
[183] Pollon, "What's Changed on the Ground Since the Mount Polley Mine Disaster?"
[184] Zoe Sofia, "Container Technologies," *Hypatia* 15, no. 2 (April 1, 2000): 198.
[185] Sofia, 198.

phallic violence of drilling technologies and instead analyzing tailing containment, space, land, and environments are revealed as lively and dynamic, rather than inert and passive. Secondly, tailings represent the enduring toxicity of mining operations that fall below the threshold of everyday perception but threaten ecosystem and organism health—articulated by Rob Nixon as the slow violence of environmental degradation.

Tailings are the by-products of the extraction and recovery of minerals. When rock is extracted, it is ground to the size of sand and silt, to be sorted into either valuable or waste minerals.[186] These fine-ground waste minerals, along with waste water and processing chemicals, combine to create a toxic 'slurry,' which is then stored in a tailings management facility.[187] The volume of valuable ore obtained in this process is vastly overshadowed by the quantity of waste material produced. The facilities required to store this waste engulf lands and waters, and pollute air sheds.[188] The long-term, safe maintenance of tailings facilities, and their eventual remediation, is an incredibly challenging aspect of mine planning and engineering.

There are many ways to contain tailings, including burial, which is easy in underground mines, as tailings can be backfilled into the mine after it has been depleted. It is also possible to create solid or paste-like tailings that can be stacked and stored.[189] In BC, however, tailings are most commonly contained by bonding the waste minerals and processing chemicals with water and pumping them into 'ponds' held back by dams. The popularity of this method is largely due to its economic efficiency and its suitability to open pit mining operations.

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[186] Adrian Lee, "What You Need to Know about Tailings Ponds," *Macleans*, August 6, 2014, http://www.macleans.ca/news/canada/what-you-need-to-know-about-tailings-ponds/.
[187] Tamás Meggyes et al., "Enhancing the Safety of Tailings Management Facilities," *Soil and Sediment Contamination: An International Journal* 17, no. 4 (June 24, 2008): 324, https://doi.org/10.1080/15320380802143922.
[188] Zunaira Asif and Zhi Chen, "Environmental Management in North American Mining Sector," *Environmental Science and Pollution Research* 23, no. 1 (January 1, 2016): 172, https://doi.org/10.1007/s11356-015-5651-8.
[189] Geoffrey Blight, *Geotechnical Engineering for Mine Waste Storage Facilities* (Boca Raton: CRC Press, 2010).

There are many dynamic environmental and climatic processes that challenge tailings containment. The process of crushing rock into silt and sand-sized fragments creates particulate matter and dust, wherein the minerals take on an almost atmospheric form, highly recalcitrant in the face of containment. In this form, the mineral matter is blown by winds, seeping into lungs, and coating surfaces with layers of dust. Tailings ponds render these volatile mineral substances more inert by bonding them with water. Once submerged, the tailings sink under their own weight, settling and consolidating to form silty deposits.[190] However, liquidity presents its own suite of containment and storage challenges. Liquid tailings are leaky, notoriously filtering into groundwater, while ponds are also highly vulnerable to overflow, threatening to breach when precipitation levels rise.[191] Once waste particles are suspended in water, they are deeply entangled in the hydrological cycle.

To theorize containers, Sofia draws on Heidegger, who analyzes *holding* not as passive, but instead as a kind of "complex action."[192] Tailings ponds hold, both by suspending toxins and waste particles in water, and by holding back this liquid with dams and dikes. The extensive efforts to contain tailings reveal this holding as a highly complex action. Considering extraction from the standpoint of the drill, land or rock may more readily appear as inert or as a "container of resources" to be emptied whereas from the standpoint of tailings, the landscape appears a lively actor, consistently threatening the long-term stability of mine waste that must be held over time.[193] Naturally occurring forms and elements are enlisted to aid in holding, such as topological depressions in the ground used as ponds, or embankments used as impound the

[190] Blight, 8. 8
[191] "Two Million Tonnes a Day: A Mine Waste Primer" (Mining Watch Canada, 2009), https://miningwatch.ca/sites/default/files/Mine_Waste_Primer.pdf.
[192] Sofia, "Container Technologies," 192.
[193] Sofia, 188.

slurries, and water is used to suspend particles. Yet, these very forms threaten to undermine the stability of the toxic slurry, as embankments are subject to erosion, and water to overflow. The term 'extraction' indicates removal or alienation, yet the effects and legacies of extraction exceed the moment of withdrawal. A focus on tailings shifts the temporality of extraction away from the penetrative event and brings into view the extended ecological aftermaths of contamination on landscapes transformed by the containment of its remains.

A focus on tailings orients concern toward the toxic ecologies left in the wake of extraction, which are often "inaccessible to the immediate senses."[194] In one scene of *Konelīne* , Oscar Dennis is shown fetching water from a river near his house. On the walk back, he carries a filled bucket on his shoulders and explains, "Everyone's sick around here. After people hit a certain age they get sick because they ingest too much toxins. My Dad was diagnosed with Alzheimer's last year. Now that we're taking care of him, he drinks fresh water with me and my mom."[195] A central story line in the film is Oscar's attempt to learn as much as he can of the Tahltan language from his father before his Alzheimer's progresses. As Oscar links his father's illness to the effects of industrial activity, he evokes the deep entanglement of land, memory, language, and belonging, and the ways in which these relations are being threatened by extraction and toxicity.[196]

The theoretical approaches outlined above have a practical urgency. Some estimates indicate that the Canadian mineral industry produces one million tonnes of waste rock and 960,000 tonnes of tailing every day, amounting to twenty times the volume of municipal solid waste

[194] Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge, Massachusetts: Harvard University Press, 2011), 15.
[195] Wild, *Konelīne*.
[196] Sarah Marie Wiebe, *Everyday Exposure: Indigenous Mobilization and Environmental Justice in Canada's Chemical Valley* (Vancouver: UBC Press, 2016).

generated across all residences, commercial establishments, institutions and industries in the country.[197] As higher grade deposits dwindle and extractive frontiers expand to explore and exploit lower grade deposits, this massive volume is only intensifying, as lower grade deposits create even higher volumes of waste. The storage of toxic tailings requires decades upon decades of monitoring to maintain stability. However, when the time comes for eventual reclamation—which in some cases is estimated at 70 years into the future—the firms who profited from the extractive activity may no longer be in business, leaving remediation a public liability.[198] The Tahltan blockade at Red Chris sought to open dialogue between the First Nation and Imperial Metals as to the design of the toxic tailings pond in their territory. It demonstrates the committed sense of stewardship the group of Tahltan have toward their land, as well as the reluctance of the company to engage with them on matters they consider merely "technical."

Settler Colonialism and Representation

Canada is a nation founded on the genocide of Indigenous peoples and maintained by ongoing violent forms of dispossession.[199] Efforts to eliminate Indigenous peoples have been enacted through interconnected forms of power that include corporeal violence, dispossession, and assimilation.[200] Representational practices are also implicated in these structures of power, a key method of colonial subjugation being the denial of self-representation for Indigenous peoples

[197] Jamie Kneen, "Waste Rock and Tailings," MiningWatch Canada, June 4, 2009, https://miningwatch.ca/blog/2009/6/4/waste-rock-and-tailings.
[198] "Suncor Plan for Managing Tailings Ponds Approved by Alberta Energy Regulator," *CBC News*, October 26, 2017, http://www.cbc.ca/news/canada/calgary/energy-regulator-alberta-suncor-tailings-1.4373317; Pollon, "Northwest Power Line Grows, So Does Controversy."
[199] Glen Sean Coulthard, *Red Skin, White Masks: Rejecting the Colonial Politics of Recognition*, vol. 16, Indigenous Americas (Minneapolis: University of Minnesota Press, 2014).
[200] Patrick Wolfe, "Settler Colonialism and the Elimination of the Native," *Journal of Genocide Research* 8, no. 4 (December 1, 2006): 387–409.

and communities.[201] Thus, representations by settlers which attempt to document these injustices and ally themselves with anti-colonial struggles risk re-enacting this injury.

In a commentary on *Konelīne* featured in the journal *BC Studies*, Language and Culture director for the Tahltan Nation and Tahltan academic Edōsdi/Judith C Thompson outlined her critical perspective on the film, which she notes is shared by other Tahltan people. The first aspect of the film she takes issue with is the title—*Konelīne: Our Land Beautiful*. She relays that according to several Tahltan first-language speakers, *konelīne* means "beautiful place" or "beautiful country," and therefore the inclusion of the possessive pronoun *our* constitutes a mistranslation of the Tahltan word.[202] For Edōsdi/Thompson the injury of this mistranslation is compounded by the fact that it "seems to indicate that the story would be told by us and would be about our relationship to the land. However, that is not the case."[203] Instead, she notes, filmmaker Nettie Wild as a southerner and settler has an "outsider's view."[204]

As Linda Alcoff argues in "The Problem of Speaking for Others," the practice of representing a particular community or person also involves participating in the construction of their subject position.[205] In this way, speaking about often amounts to speaking for. As a consequence, these representations are likely to have an impact on those being represented.[206] In a settler colonial context, this dynamic has high stakes. In this concluding section, I examine

[201] Faye Ginsburg, "Mediating Culture: Indigenous Media, Ethnographic Film, and the Production of Identity," in *Fields of Vision : Essays in Film Studies, Visual Anthropology, and Photography*, ed. Leslie Devereaux and Roger Hillman (Berkeley: University of Chicago Press, 1995), 256–91.
[202] Judith C. Edōsdi/Thompson, "Review of Konelīne: Our Land Beautiful," *BC Studies* 195 (2017): 188.
[203] Edōsdi/Thompson, 188.
[204] Edōsdi/Thompson, 188.
[205] Linda Alcoff, "The Problem of Speaking for Others," *Cultural Critique Cultural Critique*, no. 20 (1991): 5.
[206] Alcoff, 10.

Edōsdi/Thompson's critique of the film in order to carefully consider the histories and structures that condition the potential dangers involved in settlers representing Indigenous communities.

Another issue that Edōsdi/Thompson takes with the film relates to two back-to-back hunting scenes. In the first, two white settlers hike through a vast and remote valley, carrying longbows. They are shown observing animals from afar with telephoto binoculars, without actually killing anything. In the second, two Tahltan men, Orville and his nephew Elliot, bring the camera crew in their truck as they hunt moose with a rifle. They are shown shooting and field dressing an animal that turns out to be a female.

According to Tahltan Central Government President Chad Day, "for Tahltan people hunting is a vital part of livelihoods and culture. The food from our wildlife populations continues to support the majority of our local families, particularly the most vulnerable."[207] After the gold rush economy moved through the northwest in the late nineteenth and early twentieth century, hunting replaced gold as the primary economy bringing southerners to the north.[208] This changed the status of animals on the land, as they came to be viewed and regulated as 'game' and 'wildlife.' In the first decades of the twentieth century, the north became a highly valued site for trophy and big game hunting of animals such as moose, caribou, sheep, and mountain goats. Many of the hunting and conservation regulations that were enforced in the territory were informed by racist and sexist principles of masculinist sportsmanship and notions of the "gentleman hunter," which value game and wildlife as trophies rather than food, and cast

[207] Tahltan Central Government, "Tahltan Nation Remains Focused on Co-Management of Wildlife," News Release (Dease Lake, September 15, 2016), http://tahltan.org/wp-content/uploads/2016/09/TCG-Takes-Action-on-resident-hunting-Final-1.pdf.
[208] Jonathan Peyton, "Unbuilt Environments: Unrealized Geographies of Energy and Enterprise in the Stikine" (Ph.D. dissertation, University of British Columbia, 2011), 110. 110

subsistence hunting as "primitive."[209] Given the central role of hunting for local subsistence, the colonial administration of hunting and wildlife has had profound impacts on local lives and lifeways, and is being actively challenged to include greater Tahltan collaboration and leadership.[210]

Edōsdi/Thompson asserts that *Konelīne* "poorly portrays Tahltan people in our territory," drawing on the juxtaposition of the two hunting scenes described above. She notes that "the settler hunters visiting our lands carry bows and arrows and are shown walking in the pristine wilderness while talking about being one with nature," whereas "the Tahltan hunters use high-powered rifles and drive a pickup truck."[211] For Edōsdi/Thompson, the contrast between the two hunting parties is "reminiscent of the 'pizza test.'"[212] The 'pizza test,' as it has come to be known, refers to a moment in the case of *Delgamuukw v. British Columbia* when a Crown lawyer argued that Indigenous people's consumption of non-traditional foods should serve as evidence against their claims to Aboriginal rights. The Crown lawyer is reported to have asked a plaintiff whether she ate fish, moose, meat, and berries.[213] When she answered affirmatively, he proceeded to ask, "What about pizza?" When she replied that she did occasionally eat pizza, the lawyer used this to argue that her claim was not viable, since pizza is not considered a traditional Indigenous food.[214] In the case, the onus of proof was on the Gitxsan and Wet'sewet'en to demonstrate that they were an organized society who had continuously occupied their territories

[209] Peyton, 112. 112
[210] This is brilliantly explored in Angry Inuk (2016), wherein Inuk writer and director Alethea Arnaquq-Baril shows explores how the anti-sealing movement has affected seal hunters and their communities.
[211] Edōsdi/Thompson, "Review of Konelīne: Our Land Beautiful," 189.
[212] Edōsdi/Thompson, 189.
[213] Robin Ridington and Jillian Ridington, *When You Sing It Now, Just like New: First Nations Poetics, Voices, and Representations* (Lincoln: University of Nebraska Press, 2006), 246.
[214] Ridington and Ridington, 246.

since time immemorial. Since the nations had to prove that they had lived "traditional Aboriginal lives" consistently over time, evidence of cultural change worked against their claim.[215]

The 'pizza test' is illustrative of the eliminatory logic that characterizes settler colonialism, in which enfranchisement—the most common process by which Indigenous peoples were stripped of their Indian status—operates as a political technology of assimilation.[216] Through legislation like the *Indian Act* (1876), involuntary enfranchisement was historically enforced according to selective processes that ranked Indigenous people along racist, sexist, and classist lines.[217] Those who became doctors, lawyers, or clergymen were enfranchised, as were women who married non-Indigenous or non-status men.[218] As Bonita Lawrence explains in *"Real" Indians and Others,* "With definitions of Indianness deeply embedded within systems of colonial power, Native identity is inevitably highly political, with ramifications for how contemporary and historical collective experience is understood."[219]

The settler colonial context, in which the regulation of Indigenous identity by the settler state and community has such profound impacts on the lives of Indigenous peoples and their lands, further entrenches the significance of Alcoff's assertion that speaking *about* is often the equivalent of speaking *for*. This is a risk whenever those who are being represented by others, regardless of content and intention, are not afforded the space to instead speak for themselves. In this way, such practices of representation can become part of the extractive landscapes they seek

[215] Bonita Lawrence, *"Real" Indians and Others: Mixed-Blood Urban Native Peoples and Indigenous Nationhood* (University of Nebraska Press and UBC Press, 2014).
[216] Robert Nichols, "Contract and Usurpation: Enfranchisement and Racial Governance in Settler-Colonial Contexts," in *Theorizing Native Studies*, ed. Audra Simpson and Andrea Smith (Duke University Press, 2014), 99–121.
[217] Nichols, 105.
[218] Nichols, 105.
[219] Lawrence, *"Real" Indians and Others*, 1.

to document. Thus, profound care must be brought to such endeavours, which may require one to listen rather than direct, follow rather than lead, or simply "move over and get out of the way."[220]

To conclude this chapter I ask: what does the film *Konelīne* suggest about documenting, through the lens of infrastructure, landscapes affected by colonialism and extraction? In a settler colonial geography like that of northwest BC, stories of infrastructure implicate numerous different communities shaped by violent histories and ongoing inequalities. At its best, a focus on infrastructure offers an opportunity to explore the connections between communities, histories, and spaces, in all their unevenness and complexity. As Edōsdi/Thompson's critique indicates, however, representing—and thus speaking for—different communities and peoples, even in a way that is fair, accurate, and ethical, is fraught with the potential for misrepresentation and harm.

In examining *Konelīne*, I have attempted to explore certain aspects of what the film does—communicate an infrastructural poetics and present two valuable lenses into the relationship between transmission and extraction—while also taking seriously local Indigenous criticism. *Konelīne* offers insights into the landscapes, relationships and processes it portrays, as well as the liabilities inherent in doing so from the position of an outsider. Both on and off screen, the film illustrates some of the opportunities and affordances of telling stories through infrastructure, as well as the dangers that accompany such documentation and depiction in a settler colonial context.

[220] Alcoff, "The Problem of Speaking for Others," 8. 4

Chapter 3 - Logistics and Extraction in the Golden Triangle

The northwest corner of British Columbia, in the territory of the Tahltan and Nisga'a Nations, is an intensely mineralized area, which has also come to be known by those in the mining industry as the Golden Triangle.[221] The past fifteen years have witnessed a mineral exploration boom in the area, over which period it has come to be recognized as "one of the richest metal belts in the world."[222] Despite numerous mines in operation throughout the late nineteenth and twentieth centuries, the provincial government—which has recently funded extensive geological surveys in the area—estimates that only 0.0006% of the ore in the Golden Triangle has yet been extracted.[223] Figures such as this conjure narratives of the frontier, wherein the territory is imagined as mineral rich, but undeveloped and underutilized. These ideas exist in complex tension with the realities of Indigenous presence, conceptions of land, as well as the conflicting claims to Aboriginal title and other rights that characterize the unceded nature of the territory.

The frontier narratives surrounding the Golden Triangle draw on the mythos of the gold rush, conceiving of the land as a bundle of resources, free for the taking, simply waiting for whoever stakes their claim first. However, the promises of wealth currently embodied by these mineral lands are far from being so straightforward. In practice, vast amounts of energy and investment go into framing and rendering the land a resource, creating the conditions for extraction, and bringing the Golden Triangle into affective awareness as a promising site of investment. This chapter explores two entangled processes that are vital to materializing the

[221] The boundaries of the what is considered part of the Golden Triangle shift as the region continues to be surveyed for its geological potential.
[222] "B.C.'s Golden Triangle," American Creek Resources Ltd., accessed April 2, 2018, http://www.americancreek.com/index.php/projects/treaty-creek/b-c-s-golden-triangle.
[223] "The Re-Awakening of the Golden Triangle."

extractive future imagined for the Golden Triangle: the construction of infrastructures of transportation to deliver minerals to market, and the facilitation of proprietary access to the lands and waters from which these minerals are extracted.

This chapter first outlines the concepts that frame my investigation—logistics, supply chain capitalism, extraction, and primitive accumulation—as informed by insights from contemporary materialist feminisms. The following sections seek to ground these concepts in a discussion of local historical circumstances and material arrangements. Here I explore the specific infrastructural materialities, geophysical agencies, and legal apparatuses that act together to establish the region as a unique node within the network space of the global supply chain.

This chapter takes as its point of departure the Stewart World Port, which, along with the Northwest Transmission Line (NTL) and Highway 37, has played a key role in reanimating the extractive potential of the Golden Triangle. Located in a small mining town at the end of the Portland canal, the port acts as a logistical gateway for the export of mineral raw materials to Pacific markets, and the import of large-scale industrial machinery to the extraction-intensive regions of northern British Columbia, the Yukon, and the Alberta tar sands. In these ways, the port is situated as a contact zone between the spaces of global shipping and transcontinental logistics on the one hand, and on the other, those of extractive industry and settler colonial territoriality.[224]

The section entitled, 'Materializing the Golden Triangle,' explains how the Stewart World Port fails to fit seamlessly into the story of the logistics revolution and containerization. It then traces the materiality of mineral mining in a physical and technical sense, by outlining how the distinct geophysical affordances of the industry pose particular challenges to the application

[224] This logistical gateway is key to the economic viability of BC's mineral exports, which account for over a quarter of commodity exports for the province.

of logistics principles like outsourcing, automation, and leanness. Lastly, the chapter addresses how access to land in BC is facilitated by gold rush-era legal principles—laws of free entry—and a web-based mineral tenure registration system—Mineral Titles Online.

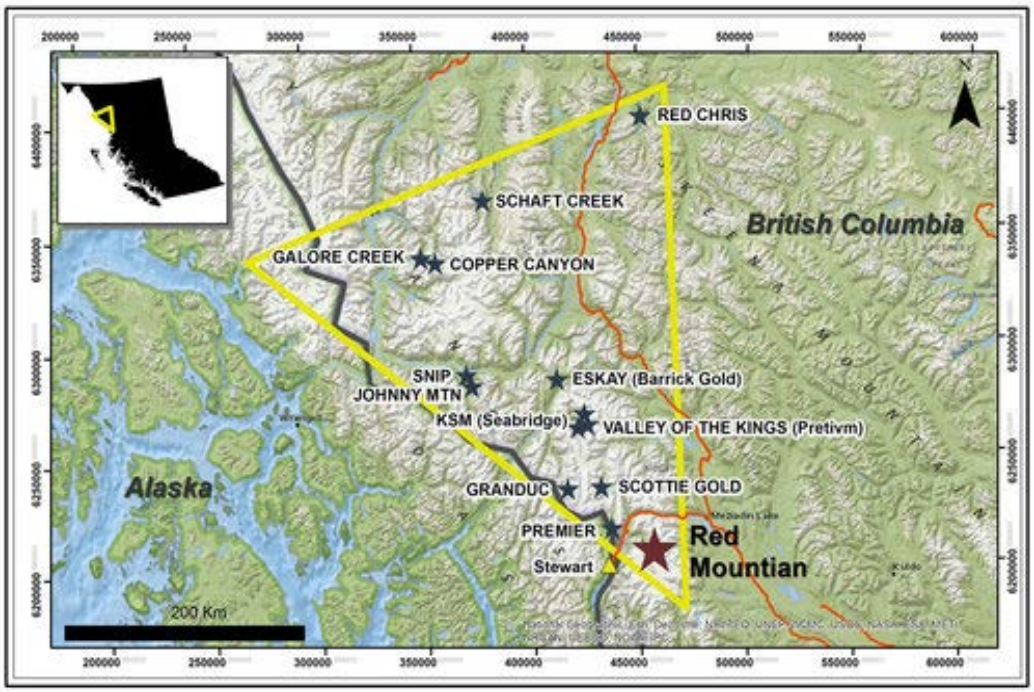

Figure 6. Map of British Columbia's Golden Triangle, Mining.com.

Conceptualizing the Golden Triangle

In *the Deadly Life of Logistics*, Deborah Cowen argues that since the 1990s, transnational trade agreements and the growth of intermodal global shipping have engendered a "newfound emphasis on the infrastructural networks of trade and renewed interest in corridors and gateways"—and among these, ports.[225] Logistics refers to the planning, implementation, and control of processes involved in the distribution and circulation of commodities, information, and services. Today's paradigm of logistics took shape in the 1960s. Combining insights from

[225] Deborah Cowen, *The Deadly Life of Logistics: Mapping Violence in Global Trade* (Minneapolis: University of Minnesota Press, 2014), 56.

military science and business management, it involved the implementation of models that organize throughputs of capital to boost profits by maximizing efficiency in the domains of transportation, communication, and distribution. The corresponding 'revolution in logistics' is also often recognized as being made possible by the technical transformations in the transportation and shipping industries—namely containerization—as well as in information and communication technologies that have enabled the detailed coordination, feedback, and prediction of circulatory flows throughout supply chains.

As Sandro Mezzadra and Brett Neilson have noted, many scholars and activists—from Deborah Cowen, Stefano Harney, and Fred Moten, to the Invisible Committee—have developed the term logistics as an analytic, used to recognize and describe a mode of power that expresses itself in the organization of space, administration of provisions, and coordination of access.[226] As the Invisible Committee explain, this mode of power functions architecturally, and is "immanent in life as it is technologically organized and commodified."[227] As opposed to political power enacted through channels of representative democracy or public debate, logistical power resides in the distribution of goods and movement of bodies, and is thus embedded in the infrastructures of everyday life. Given this material form of power, ports acts as important sites of coordination, flow, and resistance.

Logistics is the organizational logic within the paradigm of supply chain capitalism. Supply chains refer to the systems involved in the production and distribution of commodities, including a broad range of activities associated with sourcing, processing, and delivering commodities to consumers.[228] They link various independent entrepreneurs, facilitating the reach of commodity

[226] Mezzadra and Neilson, "On the Multiple Frontiers of Extraction," 13.
[227] The Invisible Committee, *To Our Friends*.
[228] "Supply, N.," *OED Online* (Oxford University Press), accessed March 10, 2018, http://www.oed.com.proxy3.library.mcgill.ca/view/Entry/194665.

chains across the globe.[229] Although composed of multiple heterogeneous actors, firms, and infrastructures, supply chains, as informed by systems thinking, can also be conceived of as integrated systems.

As they unfold on a global scale, supply chains threaten to overwhelm the imagination in their seemingly totalizing scope and speed. Mezzadra and Neilson warn that the notions of seamless global space and the "absolute sovereignty of capital," projected by the worlds of logistics and finance, can produce hyperbolic fantasies, "smoothing out the world by eliminating friction and resistance."[230] Addressing a similar form of seduction, Anna Tsing argues that theories of capitalism too often assume homogeneity to account for its "bigness."[231] This, she argues, threatens to erase important specificities of race, gender, or national status that are involved in the heterogeneous processes of supply chains.[232] Tsing argues that an analysis of what she terms "supply chain capitalism" is uniquely suited to offering "a different image of bigness" than that of increasing homogeneity. Instead, she explains, this paradigm "offers a model for thinking simultaneously about global integration, on the one hand, and the formation of diverse niches, on the other."[233] Her approach deploys important insights from feminist theory to describe how "intersectionality creates diversity *within* capitalism," as labour, nature, and life—both human and nonhuman—are configured by capitalist and colonial histories.[234]

Both logistics and infrastructure can also be approached from a feminist perspective. The masculinist, militaristic roots of logistics—the process of provisioning and supplying troops with their necessities for life—can be seen as a mode of reproductive labour, which is both considered

[229] Anna Tsing, "Supply Chains and the Human Condition," *Rethinking Marxism* 21, no. 2 (April 1, 2009): 148–76.
[230] Sandro Mezzadra and Brett Neilson, "Operations of Capital," *South Atlantic Quarterly* 114, no. 1 (2015): 7.
[231] Tsing, "Supply Chains and the Human Condition," 151.
[232] Tsing, 151.
[233] Tsing, 150.
[234] Tsing, 150.

metaphorically feminine and historically associated with women's forms of labour. An approach to logistics which considers its role in the reproduction of life draws on insights from Marxist feminism as well as feminist studies of technology.[235] Similarly, Cowen argues that a focus on infrastructure underscores the centrality of social reproduction in its gendered and racialized forms, demanding that we interrogate how power operates in the most ordinary and everyday ways.[236] Tsing's insights into the intersectionality of "supply chain capitalism," and Cowen's approach to logistics and infrastructure as technologies of social reproduction, inform how I use these terms to describe the settler-colonial space of northwest BC.

Cowen is attentive to how logistics configures space, tracing the ways in which infrastructures distribute commodities, labour, life, and death. Key to her analysis is how logistics both forms and operates in diverse spaces—from transit corridors, to border zones, to logistics cities—and how these spatial configurations give rise to particular socio-natural formations and political struggles. We can see this at play in the Golden Triangle. It is only under certain logistical conditions, such as those provided by the Stewart World Port, that this remote region appears as a viable extractive site within global supply chains. In this settler-colonial context, specifically, these conditions give rise to particular dynamics of accumulation, dispossession, and resistance.

When logistics is analyzed as a relationship of production, distribution, and consumption, extraction tends to be folded into processes of production. I argue, however, that extraction requires its own analysis. Given that the "revolution in logistics" is said to have "transformed the

[235] Silvia Federici, *Caliban and the Witch: Women, the Body and Primitive Accumulation* (New York: Autonomedia, 2004); Sofia, "Container Technologies."
[236] Deborah Cowen, "Infrastructures of Empire and Resistance," Versobooks.com, January 25, 2017, https://www.versobooks.com/blogs/3067-infrastructures-of-empire-and-resistance.

factory into a disaggregated network of production and consumption,"[237] where do sites of extraction fit in? By foregrounding the question of 'supply' in supply chain capitalism, this chapter asks: In what ways do the unique ecologies, geophysical affordances, and territorial regimes that exist at sites of extraction, such as the Golden Triangle, constitute particular political landscapes?

Extractive frontiers

In considering the Golden Triangle through the infrastructure of the port, this out-of-the-way place comes into view as a frontier zone of colonial-capitalist accumulation. Extraction is a structural necessity of capitalism, providing its inputs, while the supply chain is required for its attendant forms of distribution. Extractive frontiers guarantee constant growth, both materially and imaginatively. In *Friction: An Ethnography of Global Connection*, Tsing analyzes the dynamics within spaces of capitalist expansion, by elaborating on Marx's discussion of the origins of capitalist relations as "primitive accumulation." She extends his analysis by explaining how processes of accumulation produce "frontiers of capitalism."[238] Emphasizing the force of expansion and proliferation in these spaces, she adds that "frontiers are not just edges; they are particular kinds of edges where the expansive nature of extraction comes into its own." Frontiers, then, are not simply spaces where capitalist relations produce surplus value through the exploitation of labour, but rather, where value is captured through dispossession, appropriation, and extraction. While both extractive frontiers and supply chain spaces are driven by the same goals of capital valorization, in practice they involve different temporalities, materialities, and forms of calculation. They also induce different fantasies: while the supply chain evokes a sense of predictability, smoothness, and calculation, the extractive frontier conjures a sense of novelty,

[237] Cowen, *The Deadly Life of Logistics*, 11.
[238] Tsing, *Friction*.

discovery, and risk. Though these two spaces can be distinguished from one another, they are not neatly separable, but rather co-productive and overlapping, engendering emergent arrangements of cooperation, territory, and subjectivity in their intra-action.

Materializing the Golden Triangle

The town of Stewart has become the center of northwest BC's booming gold exploration industry, and has been referred to as "the heart of the Golden Triangle."[239] Constructed in 2014, the Stewart World Port plays a central role in the frontier narrative that names this region the Golden Triangle and casts it as a site of potential mineral wealth. The port is located at the end of the Portland Canal, a long fjord separating the Alaska panhandle from coastal BC.

Stewart is located in the traditional territory of the Nisga'a Nation. The town, established in 1905, was named after two early gold prospectors.[240] Both its history and present have been marked by the cyclical booms and busts characteristic of mining towns.[241] The population, which reached 10,000 before the First World War, has since dropped to about 400.[242] In a 2015 article about the port, the *Vancouver Sun* reported that, "for the dwindling village of Stewart, it had been a decades-long dream to see an old dock rebuilt into a modern deep-sea wharf."[243] The new port brought feelings of promise, and the nostalgic hope that it might restore the town's "former

[239] Mezzadra and Neilson, "Operations of Capital," 5.
[240] "District of Stewart," *The International Resource Journal* (blog), February 25, 2013, http://www.internationalresourcejournal.com/district_of_stewart/.
[241] The minerals mined in this region included gold, silver, copper, lead, zinc, cadmium, selenium, tungsten, iron, molybdenum, limestone, and quartz.
[242] "Municipal Census Populations (1921-2011)," BC Stats, 2012, http://www.bcstats.gov.bc.ca/StatisticsBySubject/Census/MunicipalPopulations?ctl00_ctl00_PlaceholderPageContent_PlaceholderPage3_usercontrols_general_csvviewer_ascx1_GridCsvChangePage=16.
[243] Derrick Penner, "Stewart Port Terminal Owner Takes $70-Million Gamble That Business Will Follow," *Vancouver Sun*, September 18, 2015, http://www.vancouversun.com/stewart+port+terminal+owner+takes+million+gamble+that+business+will+follow/11372104/story.html.

industrial glory."[244] Stewart mayor, Galina Durant, expressed her optimism in saying, "it will bring a new future for us."[245]

At the other end of the Portland Canal, about 200 kilometers south of Stewart, lies the Port of Prince Rupert, which has long served as the main transportation hub of BC's north coast. In 2007, after the closing of the local pulp mill, the port employed only eighty longshoremen, and unemployment in Prince Rupert reached over 13%.[246] To stimulate the local economy the local Port Authority adopted a strategic plan, which they named "Project Silk." The plan sought to revitalize the port as a key logistical gateway for exports bound to overseas markets and, through partnerships with rail, the import of consumer goods bound to in-land destinations in southern Canada and the American heartland. To accomplish this, the port converted its breakbulk cargo terminal in order to expand its intermodal container cargo capacity.[247] Today, the Port of Prince Rupert is the second largest container terminal in Canada, surpassed only by the Deltaport Logistics Centre, outside Vancouver. It might seem that such a massive port in Prince Rupert would render a second deep-sea shipping facility in the same remote region superfluous. The Stewart World Port, however, caters to a niche market in the global shipping business: breakbulk cargo.

The term breakbulk refers to 'breaking bulk,' the act of beginning to unload a ship's cargo. It was the dominant form of shipping until the 1970s, when it was surpassed by containerized shipping.[248] Breakbulk cargo is comprised of discrete items that must be handled

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[244] Penner.
[245] Penner.
[246] Andrew Kurjata, "'A Hail Mary Pass': How the Port of Prince Rupert Became a Player in the World of Global Trade," *CBC News*, August 29, 2017, http://www.cbc.ca/news/canada/british-columbia/prince-rupert-port-ten-years-1.4267502.
[247] Kurjata.
[248] Marc Levinson, *The Box: How the Shipping Container Made the World Smaller and the World Economy Bigger* (Princeton, N.J.; Woodstock: Princeton University Press, 2008).

individually, either because they are too large or too awkward to fit inside standard intermodal shipping containers. Breakbulk has been referred to as "the forgotten cousin of the global shipping industry,"[249] overshadowed by not only by container shipping, but also bulk shipping, which deals with cargo that can be loaded onto a ship continuously without packaging or sorting, like liquid or grain. Breakbulk cargo is contained in bags and sacks, bails, wooden boxes, barrels, drums, casks, reels, or rolls, and includes items like copper, gold, silver, and timber. It also includes heavy machinery used in industrial agriculture, mining, and energy production, such as pipes, power generation transformers, and windmills. After the Port of Prince Rupert abandoned their breakbulk facility in favour of container traffic, there was a lack of breakbulk services to meet the volume of proposed and existing energy and mining projects in Northern BC and Alberta, which require an efficiently located port to export their products, as well as a thoroughfare for their project cargo, which the Stewart World Port was designed to fill.[250]

The Stewart World Port promotes its appeal to global shipping companies on the basis of its unique logistical benefits: a full day advantage to Asian markets over southern ports, a favorable climate with low winds and deep anchorage, a steady and uncongested flow of traffic in the Portland Canal, and its location "within one of the most mineral rich areas of North America."[251] However, the logistical advantages of the Stewart World Port and the Port of Prince Rupert are also dependent upon politically contingent events that connect these remote ports to those worldwide, and are affected by practices of calculation that direct trade flows and discipline labour across distant environments.

[249] Shipping Australia Limited, "Break Bulk Shipping Study" (Sydney, 2009), 9, https://shippingaustralia.com.au/wp-content/uploads/2012/03/Break-Bulk-Study-Final.pdf.
[250] Penner, "Stewart Port Terminal Owner Takes $70-Million Gamble That Business Will Follow."
[251] "Stewart World Port," accessed February 21, 2018, http://stewartworldport.com/.

The traffic of both northwestern ports is tied to the coordination and speed of commodities moving through ports south of the border. In 2015, labour disputes between west coast American ports led to work slowdowns, the withholding of skilled labour on the part of longshoremen, and lockouts on the part of employers, all amounting to massive congestion in twenty-nine ports from San Diego to Seattle.[252] The affected cargo was estimated at a value of one trillion dollars.[253] The unions' concerns coalesced around the threat that further automation would pose to longshoremen's labour. The effects of the labour dispute resonated through supply chains around the world, resulting, for instance, in Japanese McDonald's outlets rationing fries due to a potato shortage.[254] Due to this unpredictability, the Port of Prince Rupert emerged as an alternative reliable gateway for the import of consumer goods.[255] At this time, both Microsoft and Disney were reported as having shifted a significant share of their Midwest-bound cargo from U.S. ports to the Port of Prince Rupert.[256] Following these entangled labour relations from San Diego to Stewart demonstrates that these remote extractive spaces are deeply affected by supply chain conditions.

Jasper Bernes, writing about the Port of Oakland, describes the space of the container terminal as "an interface between production and consumption."[257] As a breakbulk facility, the Stewart World Port acts as an interface between extraction and production. The shipping container has been widely recognized as a key technology of logistics. On extractive frontiers,

[252] Justin Pritchard, "A Labor Dispute That Stalled Work at West Coast Ports May Be Over," *Business Insider*, February 20, 2015, http://www.businessinsider.com/a-labor-dispute-that-stalled-work-at-west-coast-ports-may-be-over-2015-2.
[253] Pritchard.
[254] Pritchard.
[255] Kurjata, "'A Hail Mary Pass.'"
[256] Pritchard, "A Labor Dispute That Stalled Work at West Coast Ports May Be Over."
[257] Jasper Bernes, "Logistics, Counterlogistics, and the Communist Prospect," *Endnotes* 3 (2013), https://endnotes.org.uk/issues/3/en/jasper-bernes-logistics-counterlogistics-and-the-communist-prospect.

however, shaped by infrastructure development, and mining and energy industries, there remains a strong demand for breakbulk facilities.

The Materialities of Mineral Mining

The demand for breakbulk shipping at ports servicing extractive frontiers is illustrative of the distinct ecologies and geophysical materialities of these economies. Bernes describes logistics as being a force that "turns solids into liquids—or at its extreme, into electrical fields—taking the movement of discrete elements and treating them as if they were oil in a pipeline, flowing continuously at precisely adjustable pressures."[258] However, the particularities involved in mineral mining pose various setbacks to the liquidity of logistics. Systems engineers Raul Zuñiga, Thorsten Wuest, and Klaus-Dieter Thoben reflect on these challenges in their article "Comparing Mining and Manufacturing Supply Chain Processes." The authors note that while minerals provide the primary materials for many production processes, the integration of the raw mineral industries into standard supply chain models—including Supply Chain Operations Reference (SCOR), the industry standard—faces four key setbacks that plague the logistics industry.

First, sites of mineral extraction are both random and fixed—contingent upon discovery and accessibility, and once accessed unmovable—and thus not amenable to outsourcing, a practice definitive of supply chain capitalism.[259] Second, mineral exploration and extraction involve forms of manual analysis and specialized labour, such as rock sampling, visual identification, and mine assessment.[260] These practices have, thus far, proven resistant to forms

[258] Bernes.
[259] Raul Zuñiga, Thorsten Wuest, and Klaus-Dieter Thoben, "Comparing Mining and Manufacturing Supply Chain Processes: Challenges and Requirements," *Production Planning & Control* 26, no. 2 (January 25, 2015): 81–96, https://doi.org/10.1080/09537287.2013.855335; Tsing, "Supply Chains and the Human Condition," 149.
[260] Zuñiga, Wuest, and Thoben, "Comparing Mining and Manufacturing Supply Chain Processes," January 25, 2015.

of automation that have become standard in manufacturing, warehousing, and distribution.[261] Third, due to high capital inputs and often unpredictable yield, the mining industry poses different investment risks than other sectors. This, the authors note, poses setbacks to integrating mineral mining processes into the tightly calibrated profit margins that characterize logistical calculations.

Finally, mines are not amenable to just-in-time (JIT) inventory management, where the rhythms of production and consumption are harmonized. "Derived in part from the Japanese and in part from Anglo-American cybernetics," Bernes explains, "JIT is a circulationist production philosophy, oriented around a concept of 'continuous flow' that views everything not in motion as a form of waste (*muda*), a drag on profits."[262] Mines, however, operate under an alternative rhythm. Once established, they usually go into continuous production, in order to extract the maximum amount of minerals in the minimum amount of time. The ore produced is then stock-piled, following the older "push production model," as opposed to the newer, JIT model, which aims to minimize standing stock by employing "pull production" and lean manufacturing techniques.[263] To illustrate how mining and manufacturing rely on different "sourcing" processes, Zuñiga et al. compare a simulated image of a geological core with a photograph of a warehouse (Figure 7), offering a visual cue as to the two industries' distinct relationships to

[261] There is currently a push in the industry to digitize and automate many mining processes. During a speech at the Disrupt Mining conference in Toronto in 2017, Integra GoldCorp executive chairman George Salamis sought to incite the audience by claiming, "It's time to Uber-ize the mining industry, and I promise you it can be done." Ideacity, *George Salamis - Mining Disruption*. Salamis goes on to discuss processes that will 'disrupt mining,' such as his company's "Gold Rush Challenge," whereby the company released their geological data to the public in an attempt to gamify and crowd source "innovative mining solutions." George Salamis, "Mining Disruption: An Overview," ideacity, 2017, http://www.ideacity.ca/video/george-salamis-mining-disruption-overview/.
[262] Bernes, "Logistics, Counterlogistics, and the Communist Prospect."
[263] Bernes.

storage and containment.

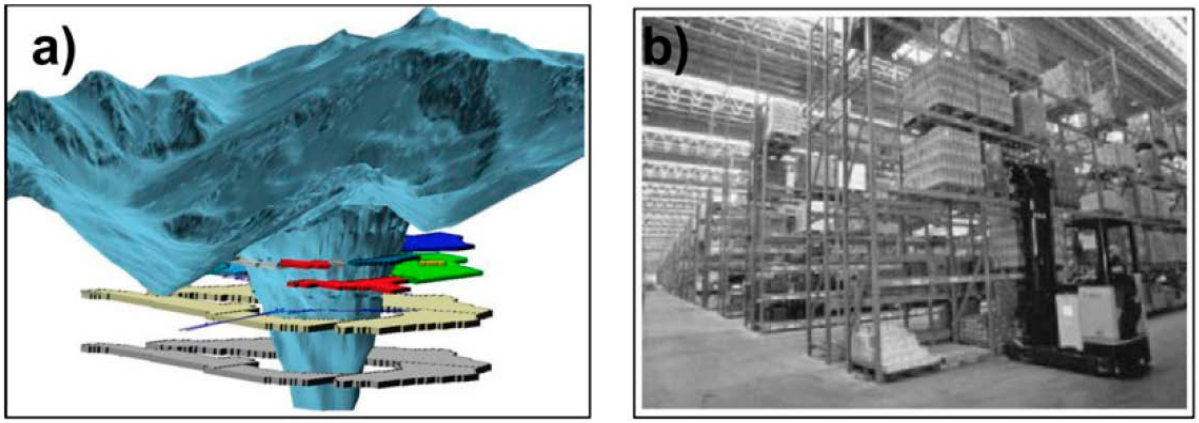

Figure 7. Sourcing in mining versus sourcing in manufacturing.[264]

Often referred to as "boom-bust," the temporal cycle of mineral mining tends to be very volatile. At sites of mineral extraction in the Golden Triangle, and elsewhere in Canadian north, the distinct rhythms, temporalities, materialities and technologies that affect the easy application of logistics principles are also inseparable forms of labour exploitation, dangerous working conditions, social effects, and environmental destruction that unfold in mining regions. Furthermore, in Canada, as in other settler-colonial states, a majority of these extractive zones are situated within or adjacent to Indigenous territories, leading these destructive impacts to be disproportionately lived by the inhabitants of those lands.[265]

Primitive Accumulation and Extraction

Tsing uses and extends Marx's primitive accumulation thesis to describe the dynamics at play on the frontiers of capitalism, "interstitial spaces" characterized by environmental

[264] Raul Zuñiga, Thorsten Wuest, and Klaus-Dieter Thoben, "Comparing Mining and Manufacturing Supply Chain Processes: Challenges and Requirements," *Production Planning & Control* 26, no. 2 (January 25, 2015): 83.
[265] Ginger Gibson and Jason Klinck, "Canada's Resilient North: The Impact of Mining on Aboriginal Communities," *Pimatisiwin* 3, no. 1 (2005): 116–139.

degradation, social inequality, and struggle.[266] Dene political theorist Glen Coulthard also draws insights from Marx's account of primitive accumulation, but productively revises and expands it by foregrounding an Indigenous perspective. Coulthard argues that in order for Marx's thesis to resonate with Indigenous resistance and critique, it must undergo three important revisions. First, rather than conceiving of primitive accumulation as an historical event, Coulthard insists on the persistent role that "dispossession continues to play in the reproduction of colonial and capitalist social relations."[267] Second, Coulthard asserts that any use of Marx's theories must shed their Eurocentric and developmentalist assumptions. Third, while Marx's interest in analyzing forces of expropriation insofar as they lead to the proletarianization of workers results in a focus on the capital-labour relation, Coulthard argues that this focus does not resonate with the experience of Indigenous people. Rather, he writes that "the history and experience of *dispossession*, not proletarianization, has been the dominant background structure shaping the character of the historical relationship between Indigenous peoples and the Canadian state." [268]

In northwest BC, this process of dispossession often occurs as a result of extractive firms' interest in gaining proprietary access to land, and the government's desire to promote development through investment. As discussed in previous chapters, the development of extractive industries has often been entangled with assertions of Crown sovereignty over unceded Indigenous land. Extraction, in this context, is understood as the appropriation of primary resources or staples. As a concept, however, it has been expanded to describe the extractive dimension of capitalism more broadly. Thus, gentrification and displacement, bitcoin and data mining, and the enclosure of public goods, have been analyzed within the logic of

[266] Tsing, *Friction*, 27.
[267] Coulthard, *Red Skin, White Masks*, 16:9.
[268] Coulthard, 16:13.

extraction.[269] Such appropriative practices may be seen as inherently linked to capitalism's drive to enclose the commons, and indeed, various forms of anti-extractivist resistance are articulated as gestures of reclaiming the commons. This position has been critiqued by those who point out that in settler-colonial contexts, many of these "commons" are in fact lands belonging to Indigenous peoples.[270]

In a special edition of *Cultural Studies* that addresses this expanded sense of extraction, editors Laura Junka-Aikio and Catalina Cortes-Severino explain that it is "no longer necessarily defined by certain types of industries and activities, or tied to questions of land and natural resources as given objects that are disconnected from others" but can also be applied to a multiplicity of sites, across socio-natural forms.[271] While extending the concept of extraction has produced insightful analyses into the changing nature of capitalist appropriation, the extraction taking place in the northwest BC—that is, the very literal practice of mining minerals from unceded Indigenous lands—invites further consideration of what might be gained and lost in the more metaphorical use of the term.

In thinking through the relationship between literal and metaphorical uses of 'extraction' as they bear on questions of settler colonialism and Indigenous sovereignty, it is insightful to consider Eve Tuck and K. Wang Yang's seminal text, "Decolonization is not a Metaphor." The authors argue that several academic and activist discourses have adopted the language of decolonization, superficially, to stand in for other ways of talking about social justice and critical methodologies.[272] They assert that decolonization, as distinct from other social justice projects, is

[269] Mezzadra and Neilson, "Operations of Capital," 2.
[270] Coulthard, *Red Skin, White Masks*. 12
[271] Laura Junka-Aikio and Catalina Cortes-Severino, "Cultural Studies of Extraction," *Cultural Studies* 31, no. 2–3 (May 4, 2017): 177, https://doi.org/10.1080/09502386.2017.1303397.
[272] Eve Tuck and K. Wayne Yang, "Decolonization Is Not a Metaphor," *Decolonization: Indigeneity, Education & Society* 1, no. 1 (2012): 19.

"far too often subsumed into the directives of these projects, with no regard for how decolonization wants something different than those forms of justice."[273]

I do not wish to propose a parallel argument, that "extraction is not a metaphor," as there does seem to be a wide range of practices that can be conceivably understood as "extractive."[274] I would not argue, ontologically, for what extraction *is*; rather my argument intervenes on the level of politics, asking instead what *effect* expanded uses of the term might have in the context of coalition building across different movements recognizable as anti-extractive. Tuck and Yang's piece explains that settler cultures' use of metaphorical abstraction can obfuscate the work of decolonization, and contribute to "'settler moves to innocence', that problematically attempt to reconcile settler guilt and complicity, and rescue settler futurity."[275] The authors argue that extending the term 'decolonization' to include, for example, 'decolonizing the mind,' or 'decolonizing education and research methods,' creates ambiguity by means of what they identify as a problematic gesture of equivocation.[276]

Tuck and Yang's warnings as to the violence of "colonial equivocation," are insightful in the context of an expanded concept of extraction. It seems that such expanded uses of the term could create a similar "convenient ambiguity" between, on the one hand, so-called anti-extractivist resistances that seek to reclaim various kinds of "commons" and, on the other, anti-extractivist resistances that are grounded in decolonization and Indigenous resurgence. I suggest

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[273] Tuck and Yang, 2.
[274] Audra Mitchell's piece "Extinction is not a metaphor," does develop this form of argumentation, drawing on Tuck and Yang's piece to explain how "extinction" is too often used as a metaphor to describe Western fears about the end of the world, and evoked as "an empty superlative, one that gestures to an abstract form of unthinkably." This powerful piece demonstrates the significance of Tuck and Yang's insistence that settler culture's use of metaphorical abstraction can act as a force of violence. Audra Mitchell, "Decolonizing against Extinction Part II: Extinction Is Not a Metaphor – It Is Literally Genocide," *Worldly* (blog), September 27, 2017, https://worldlyir.wordpress.com/2017/09/27/decolonizing-against-extinction-part-ii-extinction-is-not-a-metaphor-it-is-literally-genocide/.
[275] Tuck and Yang, "Decolonization Is Not a Metaphor," 2.
[276] Tuck and Yang, 3.

that if such extended forms of extraction are held as commensurate with Indigenous resistance to extraction, one risks misrecognizing or erasing the latter's stakes. While Indigenous resistance to extractive forces may coincide with opposition to environmental degradation, and the enclosure of various "commons," what is nonetheless central is "the question of land."[277] Failing to foreground the colonial relationship in analyses of extraction may correspond with what Coulthard describes in the following passage:

> "By ignoring or downplaying the injustice of colonial dispossession, critical theory and left political strategy not only risks becoming complicit in the very structures and processes of domination that it ought to oppose, but it also risks overlooking what could prove to be invaluable glimpses into the ethical practices and preconditions required for the construction of a more just and sustainable world order."[278]

Thus, in order to avoid the obfuscating effect that, as Tuck and Yang argue, settler culture's tendency toward metaphorical abstraction can have, I argue that in expanding the concept of extraction, one must be attentive to how various forms of resistance that may qualify as anti-extractive will nonetheless have vastly different priorities and stakes.

Materializing Mineral Title

In addition to securing infrastructures of transportation, facilitating proprietary access to land is a necessary element in materializing the extractive future imagined for the Golden Triangle. As natural resources fall within the jurisdiction of the provinces, provincial mining laws distribute rights to prospectors and mining firms to explore and extract subsurface minerals. In BC, these laws have long been a central force of colonial dispossession.

Access to mineral land in BC is currently mediated by a web-based licensing system. Introduced in 2005, Mineral Titles Online (MTO) reconfigures earlier prospecting practices of ground staking, and enables mining companies to stake claims to subsurface mineral rights

[277] Coulthard, *Red Skin, White Masks*, 16:13.
[278] Coulthard, 16:12.

remotely and at a low cost. The website, which integrates geographical information systems (GIS), global positioning systems (GPS), and e-commerce, operates as a logistical infrastructure by mediating and managing flows of information, automating the distribution and record keeping of mineral tenure rights, bringing greater supply chain transparency, and maximizing flows of capital into exploration and extraction.

As discussed in the first chapter, BC's political borders were established in response to the Fraser Gold Rush, which began in 1856. As news of the gold rush traveled, miners flooded into the colony in search of mineral wealth. In order to secure the territory for the British Crown, the governor of the colony of Vancouver Island, James Douglas, asserted British sovereignty over the region and declared all gold and silver to be reserved for the Crown.[279] *The Gold Fields Act* of 1859 then established the office of the Gold Commissioner, as an administrative body to distribute mineral licenses, maintain records of claims, and carve out mining districts.[280]

The licenses offered to miners were, and continue to be, referred to as free-miner certificates. These licenses offer miners or mining companies rights to freely enter lands to explore and develop mines, largely regardless of surface ownership. The term "free-miner" comes from the notion of "free-entry," a principle which legal historians have traced to Ancient Rome, and which continues to inform mineral staking regimes in many parts of North America.[281] Under free-entry systems, mining companies and prospectors are able to stake claims to subsurface mineral rights, even where the surface of the land is privately owned or falls within the traditional territory of Indigenous peoples, and most often without any duty of consultation or requirement of consent.

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[279] Thomas Mills, "Adapting to Miners' Practices: The Development of Gold Mining Law and the 1863 Mining Board," *BC Studies: The British Columbian Quarterly* 0, no. 196 (February 1, 2018): 47.
[280] Mills, 47.
[281] Anthony Scott, *The Evolution of Resource Property Rights* (Oxford; New York: Oxford University Press, 2008).

In *Canadian Law of Mining,* Barry Barton explains why miners were given such rights, which valorize mineral extraction over and above other uses of land:

> "One can see the free entry system as a covenant between the mining community and the government or wider community. Historically, the covenant was that the miner would be the pioneer and would open up the wilds, the untamed and forbidding wilderness. The miner would be the first agent of settlement and would push back the frontier, permitting other settlers such as farmers to follow in due course. The miner would seek out and develop the resources of the new lands and would create new wealth."[282]

While the mythos of the gold rush frontier is one of lawlessness, this passage illustrates the part played by colonial governments in facilitating, through law, the advance of extractive industries. It is also indicative of how colonial imaginaries conceive of the role of mining, and the figure of the miner as the agent of settlement on the frontier.

BC's first mining laws were designed to protect the interests of individual miners seeking their own fortunes by safeguarding against the formation of monopolies.[283] Less than a decade later, as more technically complex and costly mining practices, such as hydraulic mining, drift mining, and the use of vertical shafts, began to supersede placer mining, a series of legislative actions transformed mining law.[284] Priorities shifted from protecting the interests of individual free miners by inhibiting monopolies and speculative interests, to encouraging economic development by empowering firms' access to capital through the creation of joint stock companies.[285] This also reflected a shift from mining as a labour intensive industry, to one more reliant on capital investment in extractive machinery.[286] In the spring of 1864, it became

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[282] Barry Barton and Canadian Institute of Resources Law, *Canadian Law of Mining* (Calgary: Canadian Institute of Resources Law, 1993).
[283] Mills, "Adapting to Miners' Practices," 48.
[284] Mills, 57.
[285] Mills, 62.
[286] Gray A Brechin, *Imperial San Francisco: Urban Power, Earthly Ruin* (Berkeley: University of California Press, 2006).

possible, for the first time in what is now BC, for someone who had never set foot in mining areas to purchase shares in joint-stock companies and directly profit from mining activities.[287]

These financial abstractions were entangled with geological ones. In "Producing Vertical Territory," Bruce Braun traces the effects that the emergent science of geology had on governmentality in late Victorian Canada, through a case study of BC's northern coast. He notes that in the latter half of the nineteenth century, geology provided a way of translating rocks into forms of inscription that could travel and be read at a distance.[288] The abstraction of local sites into geological data enabled these colonial spaces to be imagined for their extractive potential by investors in metropolitan centers like Montreal, New York, and London.[289] Braun describes these entanglements of financial and geological abstractions, explaining that "the circulation of one inscription, the geological map, permitted the circulation of another, money."[290] This contemporaneous relationship illustrates what Braun refers to as the "isomorphism of *knowledge* space and *economic* spaces."[291] The circulation of maps, mineral specimens, and other media was crucial to the project of raising capital for mining endeavors in the province.[292]

Free-entry laws are one of the many enduring legacies of BC's gold rush history. While free-entry has not changed in principle, its forms of mediation have, notably with the introduction of the MTO registry system. This shift in the practices by which geographical and geological information are visualized and communicated, and property rights are distributed, has affected how access to land is materialized. MTO was one of the many programs introduced following amendments to the *Mineral Tenure Act* in 2005*,* which intended to facilitate "a

[287] Mills, "Adapting to Miners' Practices," 62.
[288] Bruce Braun, "Producing Vertical Territory: Geology and Governmentality in Late Victorian Canada," *Ecumene* 7, no. 1 (2000): 20.
[289] Bruce Braun, 25.
[290] Bruce Braun, 25.
[291] Bruce Braun, 25.
[292] Bruce Braun, 25.

competitive investment climate for exploration."[293] Some of the changes involved streamlining regulatory processes, implementing tax breaks and exploration incentives, and improving access to geo-science data through the creation of GeoScienceBC—a privately operated, but largely publicly funded organization that produces, aggregates, and makes geological information publicly available online.[294] In an interview in the *Canadian Mining Journal,* then Minister of Energy and Mines Bill Bennett described MTO as "an innovative web-based system that brings mineral title acquisition in British Columbia into the 21st century."[295]

Under the previous land staking regime, the ground itself acted as a site of inscription for mineral title. With MTO, the site of inscription shifts to digital cells, one cell representing the minimum unit of mineral tenure. Those registered as free-miners—a status available to Canadian residents over the age of 18, or their equivalent, a Canadian corporation—can login to the system, select cells using the map viewer, and purchase mineral tenure.

The system keeps an open public leger of current and historical mineral titles. It aggregates cadastral information, geological classification data, as well as information pertaining to political and ecological boundaries. The purpose of free-entry laws, according to the lead engineer for the 1885 Geological Survey of Canada, Eugene Coste, was to protect the ability of miners and prospectors—those uniquely able to "read rocks"—to traverse mineral land and stake claims.[296] MTO illustrates evolving conceptions of what it means to "read rocks," and reconfigures the relationship between prospectors and the lands to which they are given access.

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[293] Jane Werniuk, "Province Gets a New Deal: Mining Plan a Big Vote of Confidence for Miners," *Canadian Mining Journal* 126, no. 9 (January 1, 2005): 13–15.
[294] "British Columbia Mining Plan" (Province of British Columbia, January 2005), 4, https://www.for.gov.bc.ca/hfd/library/documents/bib96137.pdf.
[295] Werniuk, "Province Gets a New Deal: Mining Plan a Big Vote of Confidence for Miners."
[296] Eugene Coste, "Observations on Mining Laws and Mining in Canada with Suggestions for the Better Development of the Mineral Resources of the Dominion" (Ottawa: Geological and Natural History Survey of Canada, 1885).

The MTO system features a map viewer, a visualization tool offering users the ability to select and overlay various "layers" of spatial data. These layers include mineral tenure history, mining status, and crown land status, as well as colour-coded classifications of mineral and metallic potential. Users can also select a "First Nations Layer," which overlays boundaries of First Nations treaty lands and reserves. It does not provide, however, any information as to the unceded nature of many of these lands, offering instead only a highly selective and limited representation of the inhabitants and agents that live and move across these spaces.

Prior to the web-based system, prospectors wishing to stake mineral claims had to travel to the site and physically insert stakes into the ground, or fashion posts from trees or rocks and mark them with metal tags to indicate the perimeter of their claim. Prospectors would then record the area using a claim form, and complete a staking sketch, which would be sent to the Gold Commissioner to be registered and stored.[297]

As an integrated information system that reduces administrative labour through automation, thus freeing up funds for investment into exploration and mine development, MTO operates as a logistical infrastructure. The web-based system has been celebrated for providing a number of benefits: among them, the elimination of possible human error posed by physical staking practices and associated forms of inscription. It was also anticipated that by cutting down on expenses involved in tenure acquisition—helicopter flights, cutting roads, and other prospecting activities—funds would be channeled directly into exploratory activities of stripping, drilling, and subsequent economic feasibility studies, thereby increasing the chances of discovering valuable deposits, and optimizing the chances of developing new mines. MTO was further advertised as a means of reducing the ecological footprint of staking activities, as

[297] Werniuk, "Province Gets a New Deal: Mining Plan a Big Vote of Confidence for Miners."

prospectors no longer need to cut roads or disturb lands to stake claims. However, for these same reasons, MTO also significantly undermines the ability of Indigenous peoples to monitor staking activity in their territories, as they were previously able to encounter prospectors traversing their lands to stake physical claims.[298]

MTO received 2.56 million hits in its first week of operation.[299] In a land rush reminiscent of nineteenth century gold rushes, the system saw 3,110 mineral claims staked in the year it was introduced, amounting to a fourfold increase in total land staked, from 1.08 million hectares in 2004, to 4.87 million hectares in 2005. [300]

In its attempt to engender a more attractive investment environment by lowering barriers to the acquisition of mineral tenure, the provincial government inadvertently opened the system to more speculative land acquisition practices, which have worked to undermine the government's initial goal of optimizing the extraction of minerals. A side effect of the online staking interface has been a practice that has been called "dead-staking." Dead-staking describes a process whereby speculators purchase vast tracts of land with the intention, not to develop mines themselves, but rather to flip the mineral license for resale, which can be easily achieved using MTO, as titles can be transferred easily from one user to another, without prompting the intervention of an administrator.[301] A representative from the Ministry of Energy, Mines, and Petroleum Resources explained the issue with dead-staking by arguing that "where the land is

[298] Jessica Clogg, Kaitlin Richie, and Emma Lehrer, *Modernizing BC's Free Entry Mining Laws for a Vibrant, Sustainable Mining Sector* (West Coast Environmental Law Research Foundation, 2013), 17.
[299] Clogg, Richie, and Lehrer, 30.
[300] Clogg, Richie, and Lehrer, 30.
[301] Christopher Pollon, "B.C. to Crack down on Online Staking of Mineral Claims," *The Globe and Mail*, June 2, 2010, https://www.theglobeandmail.com/news/british-columbia/bc-to-crack-down-on-online-staking-of-mineral-claims/article1211546/.

held by a mineral claim that is not adequately explored, the province loses the potential for finding a mine. The land is sterilized from legitimate exploration."[302]

In January 2017, former Chief of the Xat'sull (or Soda Creek) First Nation, Bev Sellers, purchased a free-miner certificate for $25, and staked a claim on the one-hectare residential property of then Minister of Energy and Mines, Bill Bennett, for a fee of $104.84.[303] She used the online platform to purchase the claim, giving her the right to explore the Minister's private residential property. Sellers has long worked as both an activist and author. Her nation, the Xat'sull, was one of those most deeply affected by the catastrophic collapse of the Mount Polley tailings pond in 2014.[304] Sellers registered her claim to the subsurface mineral rights to Minister Bennett's house on behalf of the group she chairs: First Nations Women Advocating Responsible Mining (FNWARM). She stated that her claim was intended to bring attention to the ease of access that MTO brings to mineral staking, by issuing the free-miner a number of rights without an adequate duty to consult.[305]

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[302] Pollon.
[303] Mike Smyth, "B.C. Mines Minister to Claim-Staker — There's No Gold on My Land," *The Province*, January 25, 2017, https://theprovince.com/opinion/columnists/mike-smyth-b-c-mines-minister-to-claim-staker-theres-no-gold-on-my-land.
[304] In response to which she filed private charges, after the province announced provincial charges would not be laid. Laurie Hamelin, "First Nations Woman Files Charges against Mount Polley Company," *APTN News*, August 10, 2017, http://aptnnews.ca/2017/08/10/first-nations-woman-files-charges-against-mount-polley-company/.
[305] Justine Hunter, "Former First Nations Chief Stakes Legal Claim on Mining Minister's Property," *The Globe and Mail*, January 24, 2017, https://www.theglobeandmail.com/news/british-columbia/former-first-nations-chief-stakes-legal-claim-on-mining-ministers-property/article33752692/.

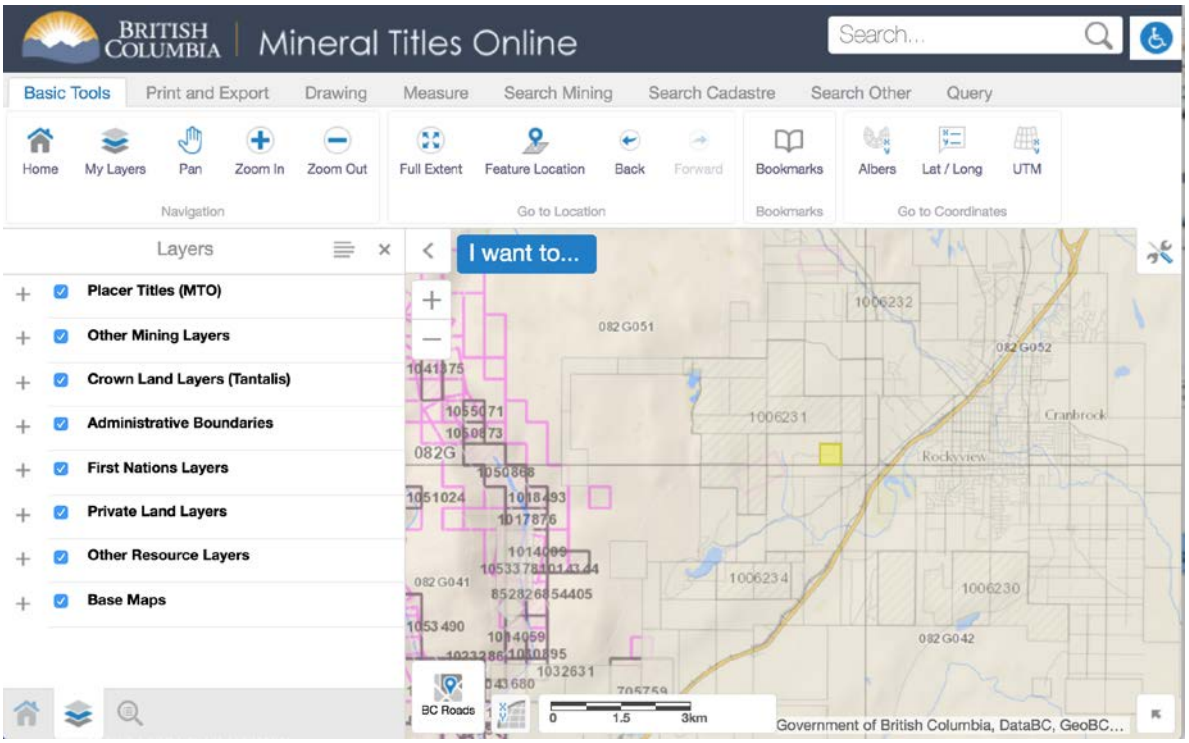

Figure 8. MTO map viewer, the yellow cell in the center indicating the claim staked by Sellers.

Assembled in 2009, FNWARM is made up of Indigenous women from First Nations of the northern coast and interior of the province. On their website, they write that many of their members, and their members' relatives, have worked for mining companies, and that they "have learned first-hand how the promise of riches can quickly turn into destroyed lands and limited low-paying jobs for those who have, for millennia, depended on those lands."[306]

In an article entitled "Badass (Indigenous) Women Caretake Relations," Kim Tallbear notes the "striking women-led condition" of many current social justice movements, from Idle No More and No DAPL to Black Lives Matter.[307] Tallbear explains that though care is not solely the domain of "cisgenederd, biologically-reproductive women," she understands the leaders of

[306] "What Is FNWARM?," First Nations Women Advocating Responsible Mining, accessed April 3, 2018, http://fnwarm.com/what-is-fnwarm/.
[307] Kim TallBear, "Badass (Indigenous) Women Caretake Relations: #NoDAPL, #IdleNoMore, #BlackLivesMatter," *Cultural Anthropology*, Hot Spots, December 22, 2016, https://culanth.org/fieldsights/1019-badass-indigenous-women-caretake-relations-nodapl-idlenomore-blacklivesmatter.

these movements as "caretaking their peoples and others."[308] When asked in an interview, "Why women?" FNWARM's Jacinda Mack responded that the women of FNWARM bring a unique and important perspective that informs their advocacy for responsible mining and stewardship on the basis of their relations, "as mothers, grandmothers, daughters, and sisters."[309] Such perspectives, Mack explains, enables them to recognize and seek repair for the damages brought by mining, which puts certain gendered bodies at risk from violence, negatively impacts nonhuman life, and pollutes the land and water on which communities vitally depend.[310]

In an interview with *The Province*, Minister Bennett responded to FNWARM's claim to the subsurface rights under his property by saying, "The claim is not going to pay off for them… There is nothing to be found there. They've made a bad investment."[311] Doubling down in his own position, Bennett's response is entirely consistent with the way in which he and his government view land. However, what his statement overlooks is more telling. By interpreting their act of subversion within his own extractive logic, Bennett's comment is illustrative of the powerful forms of erasure that the settler position entails. As Stephen Turner has explained, "colonial being" is a mode of being in place that is discontinuous with its past.[312] This discontinuity is not confined to the past, however, as settler futurity is predicated on similar practices of forgetting.

By using the very system that Bennett has consistently and publicly advocated for to stake a claim to his own home, FNWARM's action brings into affective awareness the sense that there can be no accumulation without dispossession. Their staking of Bennett's residential

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[308] TallBear.
[309] Jacinda Mack, "This Space Here: First Nations Women Advocating Responsible Mining (FNWARM)," *BC Studies*, no. 196 (2018): 6.
[310] Mack, 6.
[311] Smyth, "B.C. Mines Minister to Claim-Staker — There's No Gold on My Land."
[312] Stephen Turner, "Being Colonial/Colonial Being," *Jnewzeallite Journal of New Zealand Literature: JNZL*, no. 20 (2002): 40.

property gestures to a contradiction at the heart of settler-colonial capitalism. As a mode of being that frames the world as "an infinite container of resources," and attempts to advance the human condition through exploiting these resources with increasing intensity, settler-colonial capitalism is in fact rendering the world increasingly unlivable for humans and nonhumans alike.[313]

This chapter has aimed to trace the complex agencies, infrastructural materialities, and legal apparatuses that act together to produce the so-called Golden Triangle as a terrain of extraction. These agencies include various infrastructures, both of the build environment, in the form of ports, roads, and transmission lines, but also systems such as property regimes, surveying practices, and programs such as Mineral Titles Online. Through this investigation the Golden Triangle is revealed to be a contested terrain of political action profoundly shaped by the continuity of "frontier" settler-colonialism by contemporary means.

[313] Sofia, "Container Technologies," 181.

Conclusion

This thesis has examined the politics of energy, extraction, and logistics in northwest British Columbia, tracing the various ways in which settler colonialism is embodied in infrastructures of the built environment, legal apparatuses, and practices of representation. The pursuit and extraction of minerals has informed colonial capitalist interests in the northwest since the province's boundaries were first drawn around the Stikine in the nineteenth century. These efforts continue in contemporary forms through energy and logistics infrastructures that attempt to render the region a terrain of extraction. Infrastructures such as the Northwest Transmission Line and the Stewart World Port represent investment in an extractive future that is materialized not only in the wires, towers, docks, cranes, and terminals that constitute them, but also through processes of financial speculation and investment, as well as data-gathering practices of exploration and mapping.

The year I spent writing this thesis coincided with Canada's 150th anniversary, for which the nation threw itself a half-billion dollar birthday party. For many, this was not cause for celebration, but instead represented histories of genocide and ongoing forms of violence enacted upon Indigenous peoples by the Canadian state and settler society. Among these is the dispossession of land for the construction of mega-projects like the Site C Dam and TransMountain Kinder Morgan Pipeline expansion in BC, the Muskrat Falls hydroelectric project in Labrador, and Northern Ontario's 'Ring of Fire', a massive planned mining and smelting development. Such projects continue to undermine Indigenous sovereignty, infringe on treaty rights, and disregard calls from the Truth and Reconciliation Commission and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

The structures of settler colonial capitalism have immense power to remake worlds. Infrastructural mega-projects--perhaps the most conspicuous materializations of this--are nevertheless subject to wide fields of power in which various forces can act to cause their delay or abandonment. As Timothy Mitchell shows in his study of the Aswan Dam, no individual has mastery over these forces: "more often there occurs a series of claims, affinities, and interactions, all of which exceed the grasp or intention of the human agents involved."[314] This can be seen in the nonlinear infrastructural history of northwest BC, where complex geologies and ecologies prevented engineers and contractors from successfully surveying the land to construct the Dease Lake railway extension; where water and erosion threaten the long-term stability of tailings ponds and thus the value derived from the extractive processes that produce them; and where FNWARM, informed by relations of care, subverted the province's web-based mineral staking system and challenged proprietary access to their ancestral lands and waters.

That the outcomes of infrastructural projects are susceptible to a wide field of influence is in no way novel to those who seek to agitate, sabotage, and otherwise challenge them. These actors remain impervious to the notion of a foreclosed future. Thus West Moberly and Prophet River First Nations continue to seek injunctions of the Site C Dam, months into its construction. Opponents of the Kinder Morgan Pipeline demonstrate a similar persistence. Despite the federal government's decision to purchase and expand the pipeline as a matter of national interest, activists recently repelled from the Ironworkers Memorial Bridge in Vancouver, creating an aerial blockade to prevent a loaded oil tanker's scheduled departure from Kinder Morgan's Westbridge Marine Terminal.[315] In Labrador, many continue to oppose Muskrat Falls, even

[314] Timothy Mitchell, *Rule of Experts: Egypt, Techno-Politics, Modernity* (Berkeley: University of California Press, 2002), 34.
[315] Andrew Weichel, "Activists Form 'human Drawbridge' under Bridge to Stop Tanker," *CTV News*, July 3, 2018, https://bc.ctvnews.ca/activists-form-human-drawbridge-under-bridge-to-stop-tanker-1.3997999.

though its construction has been underway for five years. Beatrice Hunter, an Inuk woman who was arrested and jailed for defending her ancestral territories threatened by the project, expressed her determination in an interview: "Everybody talks about it being too late, but I feel it's never too late. The damage is already done but we can try and fix the damage."[316]

Figure 9. Aerial blockade from Ironworkers Memorial Bridge.[317]

[316] James Wilt, "Three Indigenous Perspectives on Canada 150 in the Era of Pipelines, Dams and Mines," *The Narwhal*, July 6, 2017, https://thenarwhal.ca/three-indigenous-perspectives-canada-150-era-pipelines-dams-and-mines/.
[317] David P Ball, Ainslie Cruickshank, and Jesse Winter, "Greenpeace Anti-Pipeline Protesters Say Bridge Disruption Demonstration Was a 'Success,'" *The Star Vancouver*, July 4, 2018, https://www.thestar.com/vancouver/2018/07/04/rcmp-begin-to-cut-down-suspended-anti-tanker-protesters-from-bridge.html.

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