

**Canada's Giant Monster: A Case Study on the Giant Mine and its Impact on Yellowknives**

**Dene First Nation**

By

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### **ABSTRACT**

Mining in Northern Canada makes up a significant portion of the region's economy, and the sector continues to grow. While promising employment, economic development, and resources for governments, including Indigenous governments, mining has the capacity to harm the environment and Northern Indigenous communities. This is its history in Northern Canada. The Giant Mine is an abandoned gold mine approximately ten minutes from Yellowknife, NWT. It has a dark history, with 237,000 tons of toxic arsenic trioxide currently sitting in underground chambers on the site. As a result, Yellowknives Dene First Nation has had to deal with numerous negative impacts, including arsenic poisoning found in water sources and contamination of traditional lands. The majority of the existing literature on the Giant Mine discusses the technical and scientific significance of the Giant Mine site but lacks an Indigenous-focused perspective. This thesis uses a case study of the Giant Mine to expand on this perspective by critically examining the remediation project and comparing policy and government documentation to Indigenous concerns and demands displayed through Indigenous voices. I use engaged acclimatization to support my analysis of how the current remediation environment negatively impacts the Yellowknives Dene First Nation and limits their potential to thrive on the contaminated lands of the Giant Mine.

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## **CHAPTER 1: Introduction**

### **The Giant Mine**

*In my everyday life, I don't tend to visit abandoned mine sites, but this March, I took a trip to Yellowknife to experience the Northwest Territories. Driving past the Giant Mine site, I was taken aback by the hostile environment. I stood out in the cold overlooking the Giant Mine from the outskirts of the site, and I noticed two things. First is the series of signs covering the perimeter of the site. They are bright and red and warn anyone near the Giant Mine to stay away. One reads, "DANGER keep out, contaminated area," and another reads, "ROAD CLOSED- Private Property Keep Out- NO ADMITTANCE." These signs make it clear that no one should enter the mine site due to its contamination. A third sign, the largest of them all, sits at the site's main entrance surrounded by caution signs; it reads "Giant Mine Remediation Project Moving Forward Together." As I sat there reading these signs, I could not help but see some irony. To have the words "keep out" and "danger contaminated area" situated in the same place as a sign that proposes moving forward together struck me as a huge contrast. Standing on the outskirts of the site, I questioned how exactly a site that remains toxic, inaccessible, and dangerous can be approached with the slogan of moving forward together.*

Since its founding, resource extraction has been at the heart of the Canadian economy. This exploitation is especially prominent in the Canadian North. This region is often associated with images of a snowy, icy landscape with the aurora borealis covering the night sky. While this has an element of truth, when we look deeper, we see that Canada's North has some important and notable mining projects. For example, Diavik Diamond Mine and Ekati Diamond Mine had a combined production valued at \$2.1 billion (Missens, Dana, and Anderson 2007, 55). The Mary River Mine sits on Baffin Island in Nunavut, one of the most northern mines in the world. Also

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in Nunavut is the Meliadine Project, Canada's third-largest gold mine. While diamonds have been the primary focus of mining in the Northwest Territories for the past generation, the territory has a long history of large-scale resource development: lead, zinc, radium, and, not least, gold. The discovery of gold in Yellowknife led to an influx of gold mining in the region and eventually, in 1948, to the first gold brick being poured at the Giant Mine (Keeling and Sandlos 2012, 4)

About 8 minutes from Yellowknife sits an abandoned gold mine site. In its underground chambers, the mine holds enough arsenic trioxide to kill the entire planet. This mine is the Giant Mine. Opened in 1948, the Giant Mine produced 7 million ounces of gold in its 50 years of operation (Keeling and Sandlos 2012, 3). The ore had to be roasted at extremely high temperatures to produce gold at the Giant Mine. This roasting process also created a highly toxic arsenic trioxide gas. Eventually, arsenic waste began to be collected and stored in underground chambers. In its 50 years of operation, the Giant Mine created 237,000 tonnes of arsenic trioxide waste. This waste still sits below the Giant Mine site.

The Giant Mine sits on the traditional lands of Yellowknives Dene First Nation, which some community members call the Giant Mine Monster. The Giant Mine has continuously impacted the Yellowknives Dene First Nation. For much of its early history, the mine operated without significant regulation by the Canadian government. Thus, arsenic leaked into the surrounding land, air, and waters, poisoning the land and the people. This resulted in the death of a young 2-year-old Dene boy in April 1951 who died from eating snow poisoned by arsenic, which was polluted from the Giant Mine. After decades of company changes, labour struggles, and 1 billion dollars in profits, the Giant Mine went into receivership in 1999 when the site was transferred to the control of the Canadian government. By then, the Canadian government had

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begun to convene workshops involving federal, territorial, and municipal government officials, as well as the company – but not YKDFN – to consider how to manage the problem of arsenic trioxide waste. In 2004, the mine was officially shut down, and the Canadian government announced their plan to freeze the arsenic in place. This solution aimed to prevent the arsenic from spreading. The toxic activities of the Giant Mine took place without any consultation from Yellowknives Dene First Nation, and the community was not protected from the harmful impacts of the arsenic. This was all done under the approval of the Canadian government. To this day, the toxic legacy of the Giant Mine looms over Yellowknife.

The current plans for remediation of the Giant Mine call for a freeze-in-place strategy. This is coined as the “frozen block method,” where thermosyphons are put in place to keep the arsenic trioxide underground frozen. The predicted ten-year remediation plan, which began in 2021, includes the frozen block method. Still, it goes further and would include the continued care of the site due to the prolonged presence of arsenic trioxide. The Giant Mine remediation plan refers to this as perpetual care (Government of Canada 2015). If the freeze-in-place strategy remains the focus of the Canadian government, the arsenic will always be in the ground. This means that complete restoration of the lands to their original state will not occur. Because of the perpetual presence of underground arsenic, Indigenous futures in the area will always be impacted by the Giant Mine. If the site is never completely restored, its traditional lands will not be accessible to Yellowknives Dene First Nation.

In this thesis, I argue the Giant Mine continues to impact Yellowknives Dene First Nation through the different registers of time and risk found within the approaches towards remediation by the Canadian government and the needs of Indigenous voices. I argue that there are gaps between how the future is approached in the current remediation plan and what Indigenous

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voices are displaying they need when it comes to the future of their community. I begin with a discussion about my experiences in Yellowknife through engaged acclimatization. I explore how what I saw during my trip displays this fragmented understanding of the future. I then explain the use of my methods in a more extensive way. I explore current literature on the Giant Mine, including the political history of the Northwest Territories, Yellowknives Dene First Nation, and the Giant Mine site. I also discuss the scientific and technical literature that makes up the majority of the current body of literature. I then explore my topic through a comparative analysis of government documentation and Indigenous voices. When comparing Indigenous voices and needs to the remediation plan, it is clear that there are gaps in many different areas. The technical, scientific, and economic gaps can be bridged through further work with the YKDFN. Regarding the future of the site, solutions are not as clear. Given current knowledge, the arsenic will remain underground perpetually. Thus, there are no policies or agreements that can bridge the gap between what Indigenous futures on the site look like. This section explores this idea further and aims to display what is at stake for Indigenous futures and how they are impacted and limited by the current state of the Giant Mine. Lastly, I explore the implications of the Giant Mine as a case study.

According to the Oxford English Dictionary, Remediation is “remedying or correcting something” (2023). The current Giant Mine remediation plan aims to stop further damage and mitigate future risks, but complete damage reversal and correction are not included. This is because of the continued presence of toxic arsenic trioxide in the ground. The messaging I saw at the Giant Mine, which stated *Moving Forward Together*, suggests that communities can move past the impacts of the Giant Mine with remediation. The current hostile environment at the Giant Mine seems to fall short of providing an environment where communities can move



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forward. Thus, this is one of many examples of gaps in the messaging and attitude toward the future of the Giant Mine. In this paper, I will explore this idea further and employ examples of Indigenous voices that express how they feel about these gaps and what their communities need for a safe and healthy future for future generations.

The Giant Mine stands out as a case study of how resource exploitation and extraction in the Canadian North has impacted Indigenous peoples and communities. The site's continued existence poses a threat to land as well as Yellowknives Dene First Nation. The case of the Giant Mine tends to float under the radar for many Canadians as it is in a Northern location seemingly disconnected from mainstream Canadian life. The Giant Mine remediation project is the largest and most expensive project in Canadian history. It was once estimated to cost around \$1 billion, but the price has since risen to \$4.36 billion (Government of Canada 2022b). Not only is the Giant Mine remediation important because of its impact on Yellowknives Dene First Nation, but it is also incredibly important because of the sheer size of this project. The Giant Mine remediation and its management have made serious strides towards remediation and solving their big problems. The current plan recognizes, regulates, and restores much of the existing site. The old buildings are being demolished, and the site will be cleared when the initial remediation is complete. But, the arsenic will still be present, the site will need to be constantly monitored, water will need to be tested, and the land will not be safe. I emphasize this because it is important to understand what is at stake for the Giant Mine Remediation Project.

## **Methodology**

### **Indigenous Voice**

A crucial part of this project is its approach towards Indigenous research. Indigenous voices are important; thus, the research approach for this project must be appropriate. I am a

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white settler on Treaty Six, and thus, I have no place in making statements or representations of Indigenous peoples. Because of this, I have chosen to conduct research using an ethical approach. This ethical approach to this paper will ensure that my paper appropriately displays Indigenous voices and will prioritize respect and responsibility. I have various responsibilities as a non-Indigenous researcher. There are concerns within research communities that Indigenous peoples are an over-researched group. This raises many ethical considerations a researcher must consider when researching Indigenous communities. A researcher can adopt many different approaches when considering these ethical issues. A couple of key concepts stand out as important to this project. The first is reflection, which is an important part of any research but especially important in this research. While working on this project and doing my analysis, I will prioritize reflection on my role as a white settler in my work and how my own experiences and heritage play a role in my research. Other guiding frameworks that fit within this idea of reflection that I will implement in this project are the three Rs: reflexivity, reciprocity, and heterogeneity (Skille 2022, 841). By being reflexive, I will examine my relationships with my work. Adopting frameworks of reciprocity will ensure that the work being carried out is in a way that acknowledges and strives to meet the needs and desires of those being researched. Skille discusses the importance of heterogeneity when researching as a non-Indigenous person. Heterogeneity ensures that the many different groups and positions that make up Indigenous communities are considered (Skille 2022, 832). This is important to this project because Indigenous communities do not speak from a single voice but many. Lastly, heterogeneity will include acknowledging the difference in life experiences and heritage between myself and those being researched.

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## **Case Study**

One of the most important elements of this project is its focus on a case study. Case studies are an effective way of studying a phenomenon at a smaller, more focused level. Case studies can potentially study two levels at once: the study of the wider and broader topic and the study of the case itself. Case studies in political science propose a way to define particular cases rather than modelling relations (Gerring 2004, 341). The dominant formal and statistical approaches in political science research can be useful. However, case studies allow for a more involved approach with the chance for insight that statistical approaches cannot provide. Case study supporters within political science state that a mixed method approach, which includes analysis and case study, can lead to well-rounded results (Crasnow 2012, 655). The Giant Mine is the case study I have chosen to be the center of my project. This case study was selected for a multitude of reasons. There are many different mining operations in Canada, but the Giant Mine stands out because of the impact it has had. Focusing on the Giant Mine allows for exploring how different registers of the future and time are displayed within remediation projects. It also allows a deeper understanding of how remediation projects impact Indigenous communities' futures.

## **Comparative Analysis**

My analysis goes beyond a case study and includes a more detailed analysis of the content surrounding the Giant Mine. This paper will use relational and comparative analysis to identify various concepts in the content available and compare and explore this content. This paper will mainly explore two different types of content. The first will be government documentation and policy. This includes documentation and policies that stand out as the most influential in addressing the Canadian government's interest and defining the scope of the Giant

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Mine Remediation Project. These policies have been used in the remediation project of the Giant Mine and are largely from Crown-Indigenous Relations and Northern Affairs Canada. The first is the environment, health, safety, and community policy. This policy states that its purpose is to guide the implementation of the remediation project's health, safety, and community plans. I will focus largely on the community aspect of this policy. I will also analyze the Giant Mine procurement agreement signed in June 2023, laying out the terms and agreement made to increase economic opportunities for the Yellowknife Dene First Nation. The Giant Mine environmental agreement lays out the environmental assessment and responses which will be implemented in the Giant Mine remediation plan. Crown-Indigenous Relations and Northern Affairs Canada also have various topics surrounding agreements and strategies on their website about the Giant Mine that will also be used. This analysis will focus on how this government documentation and messaging interacts with Indigenous needs, which are portrayed through the Indigenous voices. These Indigenous voices will be the second half of this project's content analysis.

Indigenous media and voice will provide valuable insight into the Giant Mine and its remediation. This project will compare the selected policy and government documentation pieces with Indigenous voices. This is crucial because Indigenous voices must be represented in this project. Indigenous voices will be displayed through media. Examples include news articles, podcasts, websites, interviews, and filmed content, among other forms. This exploration is important to this project because it is how Indigenous voices will be represented in this paper. As a white settler researcher, I want to ensure that the statements and conclusions made in this paper regarding Indigenous peoples come from Indigenous voices. Because this analysis focuses on two independent variables through comparison, the best form of analysis is a comparative and

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relational analysis. This analysis will allow a more in-depth understanding of the Giant Mine and its remediation project.

### **Engaged acclimatization**

The final element of this project is the trip I have taken up north to visit Yellowknife and the Northwest Territories. I had never been to the NWT before, so this was my first visit. I had this opportunity because of the Endowment Fund for Northern Studies and Research. This funding allowed me to fly to Yellowknife from March 13, 2024, to March 15, 2024. This opportunity allowed me to contextualize my research. It allowed me to see my project up close rather than from a completely outsider lens. The research technique I decided to implement when I went up north is called engaged acclimatization. Engaged acclimatization is a research technique that is compatible with Indigenous methodologies. This research technique was coined by Grimwood et al. (2012) and has been utilized in various northern Indigenous studies projects and engaged acclimatization as a research technique developed because of previous concerns surrounding whose worldviews and ideas were being placed at the forefront of Indigenous research. Research partnerships with northern communities helped provide data and information to researchers, but the world views and ideas of the research came before Indigenous worldviews (Grimwood et al. 2012, 212). Engaged acclimatization attempts to solve this issue by ensuring research is done for and with Indigenous communities (212). The researcher visits the location of their research and is transparent with why they are undertaking this research (213). Engaged acclimatization also requires the researcher to let go of “authority, certainty, and control,” which re-orient researchers to more community-based research approaches ( 214). Encounters with Indigenous peoples and communities being researched should be done through values of care and reflection as well as exploration and creativity, which helps researchers develop a “relational

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perspective” (214). This encourages researchers to reflect on themselves and try to understand better how they may impose colonial narratives on Indigenous peoples. Another important aspect of engaged acclimatization is informal meetings and discussions. Impromptu and more relaxed research settings can ensure that researchers and participants are comfortable and that reflective practices are prioritized. These informal conversations add a level of depth to research as well as space for relationships to develop (222). Immersion is also a key component of engaged acclimatization. Adding experiential and place-based encounters to research gives the researcher a deeper understanding of communities and place-based thought (223). The immersive experiences help researchers “develop an understanding of local knowledge and the capacity to translate knowledge across cultural groups” (223). Overall, engaged acclimatization is a research method which allows for immersion and research respectfully and relationally. Because of this, it fits well into the needs of my project. Next, I will discuss how I will apply these methods to my project.

While up north, I applied engaged acclimatization principles and methods, which set up important foundations for completing my research. While in Yellowknife, I actively participated in elements of reflection as a researcher. I considered my perspective and approach while interacting with Yellowknife and its northern community. This includes letting go of control and allowing my experience to guide me rather than the preconceived notions of my interaction with the space. When planning my trip, I left lots of space to ensure I was letting go of certainty and control. In doing so, I could allow elements of my research and partnership with Yellowknife’s community to guide me. I stepped back, observed from a respectful distance, and reflected.

While there are many important elements of engaged acclimatization, the idea of place is important to my project. Being physically in Yellowknife helped me as a researcher because it

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allowed me to understand better the complex communities and systems that make up the people of Yellowknife and the surrounding areas. I interacted with the land through caring foundations to understand better the importance of the land and environment to the Yellowknife people. This included exploring Yellowknife outside the city and experiencing the beauty these traditional Indigenous lands offer. I connect this to James Tully's *Reconciliation Here on Earth* (2018), in which he discusses reconciliation and its connection to the living earth. I feel that as a settler, no interaction with Indigenous lands can be done without a foundation of reconciliation. I would like to focus on the important element he discusses: gift-reciprocity. This is the idea that if we appreciate and show gratitude for the gifts the Earth gives us and treat the Earth reciprocally, the Earth will continue to provide for us in a cycle (Tully 2018, 87). I applied this foundation to my interactions with the land in Yellowknife. This reciprocal and caring relationship ensures respectful relations and research on my behalf. My place-based interactions with Yellowknife are a key component of engaged acclimatization. This will ensure that they are done respectfully.

My interactions with place while in Yellowknife act as bookends for this project. My experience was short; thus, I have utilized my experience as a personal reflection and contextualization. I explore my impressions of the Giant Mine site and the hostile environment it presents. I connect this to my main thesis, which explores the different registers of time and risk. I also implement engaged acclimatization as an exploration (albeit short) of Yellowknife and the brightness of the community. Projects that have implemented engaged acclimatization often do so by finding spaces in their research location with lots of community and culture. While I was there, the Snow King Festival was taking place. I visited heritage sites and museums such as the Prince of Wales Heritage Center, which has a gallery for the Yellowknife Dene community. This enabled me to see how museums and cultural sites display resource extraction and mining. I also

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participated in Indigenous-led tourism while there, which displayed the economic success Indigenous communities have found in the tourism industry in Yellowknife. In my chapter on engaged acclimatization, I will discuss my interactions with the culture in Yellowknife in more depth.

The methods chosen for this project aim to support and create a well-rounded approach to this research. The case study allows for a more focused topic and selection of data. The comparative analysis provides more concrete examples of how the Giant Mien has and continues to impact Yellowknives Dene First Nation. Lastly, engaged acclimatization allows for a more personal and contextualized approach to this project.

### **Theoretical Frameworks**

Indigenous-based political theory is a growing field, but it still needs to gain the wide engagement that other areas of theory have. When working on a project engaging with Indigenous ideas, voices, and stories, we must ensure that Indigenous political theory is considered and applied. Because of this, the theoretical frameworks behind this project are based on Indigenous Political theory. These frameworks help shape our understanding of the settler colonial structures that have displaced Indigenous peoples. They focus on how colonial projects in Canada propelled capitalism, which led to the exploitation of natural resources in Canada. The frameworks of this project are based on decolonial theory and land and body frameworks.

Patrick Wolfe's *Settler Colonialism and the Elimination of the Native* (2006) is a widely known piece of literature which explores settler colonialism as a tool. Wolfe emphasizes that eliminating the natives was based on securing, obtaining, and maintaining territory (Wolfe 2006, 402). Wolfe's work is not explicitly connected to mining but can be applied to mining projects across Canada. The expansion of territory in Canada was often driven by economic factors like



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resource extraction, and Indigenous peoples were indeed displaced to allow for resource extraction. This displacement was sometimes a physical movement of groups but also spiritual. The traditional lands Indigenous peoples used for hunting, ceremonies, and medicine gathering would be taken over for violent acts against the environment, like drilling for oil or mining into the ground for minerals. The contamination of land, water, and resources is also a form of displacement as it harms and threatens the lives of Indigenous peoples.

Tuck and Yang (2012) also interact with settler colonialism in their article *Decolonization is not a Metaphor*. They encourage deeper engagement with decolonization and emphasize the uncomfortable. Their interactions with decolonization are profound as they state that decolonization is “not an ‘and’ it is an elsewhere” (Tuck and Yang 2012, 36). They discuss the possibilities of Indigenous futures when settler society is lifted out of the way. They discuss how true decolonization would impoverish rather than enrich settler society (26). This can be a foundation for understanding the Giant Mine and what true remediation and reconciliation would look like on the site. True and full remediation is uncomfortable for settler society. It must be done to the fullest extent possible to meet the needs of the Yellowknife Dene people. The Canadian and territorial governments do not label the remediation project as a decolonial project but due to the connection it has with Indigenous peoples. But I would argue that it is intricately related to decolonization. Like Tuck and Yang state, decolonization should not be comfortable; thus, remediation should not be comfortable either.

Indigenous Land and Body frameworks are important to this project. Within academic writing, there are many mentions of the connections Indigenous peoples in Canada have with the land, but few fully fleshed-out academic theories. These land and body frameworks do not necessarily fit into the Western confines and understandings of Academic literature. Instead, it is

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understood in terms of Indigenous culture and teachings. Indigenous peoples of Canada have deep, cultural, and spiritual connections with the land. These connections are a back-and-forth interaction where land gives rise to culture and vice-versa (Temin 2023, 118). In their renowned book *The Fourth World* (2019), Manuel and Posluns discuss the importance of land to Indigenous communities. He discusses how all the aboriginal communities he has travelled to and interacted with have a common connection with the land (6). Manuel writes, “The land from which our culture springs is earth and the air, on and indivisible” (6). In this sense, land cannot be disconnected from Indigenous life and culture, and culture cannot exist without that land that breathes life into it. This is connected to resource extraction and mining because these activities affect and harm the land. When land is harmed and damaged, the culture of Indigenous communities also takes damage.

## **CHAPTER 2: History and Literature**

### **Historical Background**

In this chapter, I will establish the background of the Giant Mine and explore the different histories of the Yellowknives Dene First Nation. This will lay a roadmap that explores how the Giant Mine project and Yellowknives Dene First Nation got to the position they are in today. This includes a background of the Yellowknives Dene Nation, a brief explanation of NWT treaty-making, and a Giant Mine background. I will also explore further academic literature on the Giant Mine. There is a small body of existing literature on the Giant Mine. I begin this exploration with the current Indigenous-focused research on the Giant Mine. The ideas presented in this literature are crucial to understanding the impacts of the Giant Mine. There are a couple of main authors, which will be discussed in length in this literature review, but overall, the body of literature could be bigger and more diverse in terms of authorship. The largest body of research on the Giant Mine is scientific and technical. Lastly, I will discuss research being done in the public health sphere. This chapter serves as a setting for background information and research, providing a steady foundation for understanding the Giant Mine.

Dene history goes back thousands of years. According to the Dene Nation's website, they have existed for over 30,000 years (Dene Nation n.d.). The Dene organized themselves into distinct nations (Abel 2005, 18). While there are many different groups within the Dene Nation, this paper focuses on the Yellowknives Dene First Nation or the T'atsaot'ine, whose current

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population is centred in two main communities, N'dilo and Dettah. They are within the Coppermine and Yellowknife Rivers, the northeast shore of Great Slave Lake, and northeast into the Barren Grounds. Oral tradition tells us the discovery of copper in the area is credited to a Dene woman who, with the assistance of a wolf, found the mineral on her way home (Abel 2005, 12). Yellowknife refers to the Dene people's use of copper to make knives (O'Reilly 2015, 342). Yellowknives Dene First Nation have deep connections to the land they have called home for many years. Within the literature, there is a gap in the history of Yellowknives Dene First Nation before their contact with Europeans. It is important to recognize this because it is an ethnocentric idea, and just because we don't have a written record of the YKDFN's lives thousands of years before contact does not mean there is none. It is challenging to find accounts of what early life looked like for these people, but we know that they developed strong skills and knowledge, allowing them to thrive on their land (Abel 2005, 15). Yellowknives Dene people had their first direct contact with Europeans in the 17th century. Traders wanted to make contact with the YKDFN because of their copper. In the 1800s, The YKDFN were some of the main guides for the Franklin expedition (Davis 2002, 27). The YKDFN was also involved in the fur trade and connected to the Hudson's Bay Company.

At this point, the Canadian Government became increasingly interested in what the Northwest Territories offered. When it came to the NWT, the Canadian government was more concerned about the resources the land provided than those who called the land their home. Treaties Eight (1899) and Eleven (1921) are historic treaties within the NWT's boundaries. Fumoleau (2004) discusses this more in-depth in his book *As Long as This Land Shall Last: A History of Treaty 8 and Treaty 11, 1870-1939*. He discusses how the increase in mining activity on the shores of Great Slave Lake was why the boundary of Treaty 8 included the shore (37).

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The Indigenous communities were unhappy with the influx of miners. Thus, the large numbers of those coming to mine would be better described as looting (38). These settler colonial attitudes continued, and the land in the NWT continued to be treated as exploitative. This connects back to Wolfe's theory on territory, and he states that settler colonialism's central goal is to control and obtain territory. In the Treaty 8 negotiations, Indigenous peoples insisted that their rights to hunt, fish, and trap were guaranteed (74). They were steadfast in their parameters of agreement, and the government agreed to their terms during the signing of this treaty in 1899, but this was the beginning of the collapse of these promises (80). Treaty 8 was largely an opportunity for the Canadian government to further their influence in the north and increase its access to the natural resources in the NWT. Treaty Eleven covers 950,000 km<sup>2</sup>. It was signed in 1921 and 1922 and was the last of the numbered treaties in Canada. Treaty 11 negotiations were short; compared to other numbered treaties, the treaty's signing was short (271). The signing of Treaty Eleven pushed development in the region, and more people came to the North to explore the area's economic prospects. Indigenous needs were being overlooked, the communities were affected by disease and epidemics, and the treaty promises to protect their hunting and trapping from encroachment were ignored as white settlers arrived (301). White trappers hunted and trapped on Indigenous lands; this put Indigenous peoples at a disadvantage, and their economic prosperity from hunting and trapping was damaged (316). The Canadian government sought after treaties 8 and 11 to control Indigenous land and gain access to the resources. These treaty signings were the early events that would eventually lead to the initiation of gold mining in Canada and, thus, the Giant Mine.

The Giant Mine opened in 1948. The site went through various owners, beginning with The Giant Yellowknife Mines, then Pamour, and then Royal Oak Resources LTD. During the

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gold ore roasting process, a byproduct called arsenic trioxide is released. The Giant Mine underwent a couple of changes related to pollution control. However, the company's controls were insufficient, leading to more arsenic leakage, which still affects Yellowknives Dene people. During the mines' lifetime, 237,000 tons of arsenic trioxide were released and stored in underground chambers; this arsenic remains on site today. Royal Oaks went through its internal issues with the mine. In 1992, 9 miners died underground in the mine, coined "the Giant Mine murders." The crime shook Yellowknife and Canada alike. The murders happened because of a serious strike at the Giant Mine. The men died because their rail car hit a bomb placed by a striking miner named Roger Warren (Foot 2016). Royal Oaks went into receivership in 1999, transferring the site to the Canadian government. After that, the Canadian Government did not touch the site for quite a while. At this point, they were developing the remediation plan for the site. The Giant Mine Oversight Board (GMOB) was created due to one of the conditions in the Giant Mine Remediation Project Environmental Agreement signed on June 9, 2015. This agreement included various stakeholders and aimed to lay out the project's roles and responsibilities and build collaboration (Government of Canada 2015). The GMOB is an independent board that includes one board member per party. These parties are the Government of Canada, Crown-Indigenous Relations and Northern Affairs Canada, Government of the Northwest Territories, Yellowknives Dene First Nation, North Slave Métis Alliance, Alternatives North, and the City of Yellowknife (Giant Mine Oversight Board 2024a). They monitor the project, make recommendations, and research permanent solutions, to name a few of their responsibilities (Giant Mine Oversight Board 2024a). Remediation work began on the site in 2021 and is estimated to finish in ten years in 2031. The remediation plan is estimated to cost the government about \$4.36 billion. In 2024, the Giant Mine is currently in the middle of

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remediation. There are quite a few different narratives surrounding the Giant Mine. The contemporary research on the site allows for a more in-depth understanding of the impact of the Giant Mine and its historical, current, and future impacts.

Sandlos and Keeling (2016b) discuss the use of slow violence in the Giant Mine. Sandlos and Keeling use Rob Nixon's theory surrounding slow violence and toxic waste sites, which sees contamination as slow violence because it is slow to be recognized compared to other more direct uses of violence (9). The Giant Mine and the arsenic trioxide contamination in the area fit into this definition of slow violence very well. Arsenic Trioxide itself is hard to detect. Arsenic is not easily detected through taste or smell, which is problematic because the Yellowknife people relied on snowmelt for drinking water. This resulted in one confirmed case of arsenic poisoning, which led to death in 1951 (11). In their article, Sandlos and Keeling use oral history examples of how arsenic poisoning affected the Yellowknives. Their use of oral history adds an Indigenous focus to the violence surrounding the Giant Mine. There are accounts of elders falling ill due to animals like sled dogs getting sick or dying. This death and illness continue to affect the Yellowknives through painful memories (12). They also use public hearings to display Indigenous voices and the apparent slow violence connected to the Giant Mine. They state that the effects of the Giant Mine are not immediate but are chronic and intergenerational, making the Giant Mine an example of Nixon's slow violence (16). This idea of slow violence adds a more in-depth understanding of how the Giant Mine has harmed Yellowknives Dene people. Keeling and Sandlos go beyond the idea of harm and bring in a more complex idea of slow violence to better understand the Giant Mine.

Beckett (2021) writes about containing the Giant Mine and aims to discuss the socio-political and colonial aspects of the Giant Mine remediation. Beckett also critiques the

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limited view the Canadian government presents by simply focusing on the arsenic in the area and leaving out other important Indigenous narratives. Beckett states that this sidelined Indigenous and community-focused conversations and perpetuated the idea that remediation is a technical tool (1397). Beckett then shifts the conversation to what confrontation looks like within the Giant Mine and its remediation plan. This confrontation was done through public hearings where the YKDFN could confront the project (1398). Members of the YKDFN made presentations laying out their views on the remediation plan and how the future of the plan would look with more community oversight and perpetual care. The Mackenzie Valley Environmental Impact Review Board considered this in their 2013 environmental assessment. This assessment considers and takes into account that the community had a voice in public hearings. It raised concerns for the community and considered “historical injustices and ongoing marginalization as central to the potential ‘significant adverse impacts’ of the remediation project” (1399). This displays the importance of Indigenous confrontation in the Giant Mine Remediation project.

The Giant Mine is often called the “Giant Monster” in Indigenous literature. Indigenous peoples have been disproportionately affected by the Giant Mine. Current literature discusses this idea in connection to the current remediation plans for the Giant Mine site. Canada's government updated the remediation plan's cost in 2022 from 1 billion dollars to 4.38 billion dollars. The remediation plan is the most expensive remediation plan in Canadian history. Most of the literature on the site discusses how Indigenous peoples have been consulted and included in the remediation process. This includes bringing Indigenous teachings and learnings into the management of the site. An example of this is perpetual care. The Yellowknife Dene First Nation (YKDFN) proposed that the remediation project should be framed as a perpetual care project (Sandlos et al. 2019, 21). This plan would prioritize justice for the future of Indigenous life in the



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region and the YKDFN. Working groups to provide Indigenous voice focused on the connections between the YKDFN and the land and discussed what stewardship over the land for eternity looked like (Sandlos et al. 2019, 28). This focus on the future of Indigenous peoples on the land is a major theme found within the existing literature

Sandlos and Keeling (2016a) critique the remediation plans for the Giant Mine and question how Indigenous traditional knowledge (TK) is being implemented. They discuss the different lenses through which Indigenous knowledge is seen and where it is excluded. Remediation is often seen as a technical problem that requires scientific research and engineering. Because of this focus on the technicalities of remediation, TK is often excluded (280). These knowledge systems are vastly different and often do not fit perfectly. This is the case of the Giant Mine. Sandlos and Keeling analyze public hearing documents and examine how Indigenous knowledge was approached. Through analysis, they conclude that Indigenous traditional knowledge and experiences have not been properly incorporated into the remediation process. Indigenous peoples found it challenging to see their experiences as important to the remediation process (280). Sandlos and Keeling state that this can be seen through how the project is oriented towards technical solutions and Western knowledge (280). They conclude their paper with a statement encouraging future remediation plans to open up to different forms of knowledge, allowing Indigenous knowledge more space and legitimacy (285). This is important literature because it displays a starting point for analyzing Indigenous life and knowledge within the remediation plan.

Hall and Pryce (2023) write that the Giant Mine can be used as an example of Indigenous mining labour connected to ecological repair. Their article discusses the economic elements of the Giant Mine remediation and its effects on Indigenous communities. The federal and

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territorial governments have characterized the remediation plan as an economic opportunity for the region (14). Employment contractors for the remediation plan have stated they will maximize northern and Indigenous labour forces to help with the remediation project. This includes more opportunities for job training and transitioning towards a green economy (15). They analyze these ideas through settler colonial dispossession. They point out that while this employment may have positive economic benefits for the community, it does not erase past harm and should not be seen as a complete solution (15). Instead, Hall and Pryce point out the emergence of Indigenous labour through the Indigenous need for authority over land and local skilled labour (16). Hall and Pryce question the labour of remediation for Indigenous peoples and state that, in many ways, it can be connected to colonial mining labour, where colonial forces target Indigenous peoples as local labour (16). Hall and Pryce's insights into remediation labour and its colonial connections are important to understand better the effects the Giant Mine has had on Indigenous communities. Their work goes beyond arsenic's effects on Indigenous communities but critiques the remediation process.

### **Science and Technical Studies**

The scientific literature ranges from geochemical characterizations of the arsenic dust to land samples to research the effects of the dust on the groundwater. Scientific and technical literature help make the dangers of the Giant Mine clearer. They can help establish how serious the impacts of the Giant Mine are to the YKDFN. Using scientific studies, we can prove that the Giant Mine is, in fact, damaging Indigenous communities. Scientific literature is important to this project because it helps with informed decision-making while researching and provides different perspectives. These studies can be broken down into themes used in this paper. The first is the study of the land on which the Giant Mine sits as well as the land surrounding the Giant

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Mine. Second is the study of the animals and plant life in the area. Lastly, scientific and technical studies are being done to find solutions for the dust in the ground.

The studies on the environment focus on the geochemistry of the area and the sedimentary influences of the area. Geochemistry studies prove that the arsenic had leaked into the surrounding lakes, creating a hazardous and unsafe environment (Lum et al. 2023, 458; Van Den Berghe et al. 2018, 639). These studies show how the arsenic from the mine has mobilized and affected the sediment in the lakes around the Giant Mine. Multiple different researchers cover the surrounding lakes and their toxicity. The concentration of metalloids from gold mining has affected pocket lakes; the Great Slave Lake was found to have high levels of arsenic, and the lake is deemed unable to support biological recovery due to its toxicity (Thienpoint et al. 2016 7). The concentration of arsenic in the sediments of Yellowknife Bay is higher than the Canadian Environmental Quality Guidelines for freshwater settings (Andrade et al. 2010, 210). Elevated levels of arsenic and antimony are also found in waterways surrounding the Giant Mine. This complicates remediation as the authors of this study encourage remediation to focus on antimony in sediment and arsenic (Fawcett et al. 2015, 15). This research is fairly contemporary, but the elevated levels of arsenic are considered legacy residues. It focuses on how legacy residues are absorbed into plant life and how this challenges remediation (Fawcett et al. 2015, 3).

The arsenic has also affected animals, foods, and medicines in surrounding areas. Arsenic levels are high in burbot and whitefish close to the Giant Mine, which means that whitefish are a supplier of arsenic in the ecosystem in the surrounding areas of the Giant Mine (Cott et al. 2016, 230). The berries and mushrooms close to the Giant Mine also have higher levels of arsenic, and public health advisories recommend against ingesting them (Cheung et al. 2020, 230). Existing

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research done on the area suggests that the levels of arsenic present in the environment are not high enough to pose any serious health risks such as cancer or other abnormalities, but these studies also point out the weaknesses in the research that could have caused these results (Tanamal et al. 2021, 1088; Amuno et al. 2021, 208). Toxicology reports have also been done to understand better how arsenic from the mine is present within food chains. Certain types of plants absorb more arsenic than other moss. For example, they had higher concentrations of arsenic, but overall, the plants found in proximity to the Giant Mine had elevated levels of arsenic (Koch et al. 2000, 24)

One of the arguably most important elements of scientific research surrounding the Giant Mine is the research being done in search of solutions. The current action plan is to leave the arsenic dust in its underground chambers frozen. However, other research is being done to understand the viability of this and to come up with better, more permanent solutions to the remediation of the site. This remediation plan's estimated cost is now \$4.36 billion, and the Canadian government has begun investing in research surrounding the removal of toxic waste and permanent solutions to the toxic waste site. Permafrost is important to the remediation of the Giant Mine, as the arsenic dust's chambers are surrounded by permafrost. As temperatures drop due to global warming, this permafrost is at increased risk of thawing, which creates the risk of arsenic leakage (Zueter et al. 2021, 1). The "frozen block method" was chosen as the best way to keep the chambers frozen to prevent groundwater from seeping in. This was deemed by the remediation project and the Government of Canada to be the safest way to contain the arsenic. The frozen block method is done using metal tubes called thermosyphons. Thermosyphons have been implemented to help keep heat out of the chambers using a closed-loop system, which extracts heat from the ground (Alzoubi et al. 2021, 2). Models have been developed to provide a

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solution to this permafrost melt. Hybrid thermosyphon is an artificial ground freezing model that balances cooling and extraction of ground heat. This model has been developed using data from the Giant Mine, and it is seen as an innovative cold energy storage solution (Zueter et al. 2021, 14). Cold energy storage is another model being researched; it uses renewable energy sources to allow the thermosyphons keeping the area frozen to run year-round (Zueter and Sasimoto 2023, 665)

The Giant Mine Oversight Board supports research through their research program (Giant Mine Oversight Board 2024b). This research program aims to support permanent solutions to removing this arsenic dust beyond the “frozen block method.” There is incredibly important research on the topic, and although much of it has not yet been published, it is very promising. The oversight board and the University of Waterloo signed a four-year research agreement in 2019. This research has been split into four projects, each looking into different strategies for finding permanent solutions. Project one discusses the solubility and composition of arsenic trioxide, helping researchers better understand the element. Project two looks into making the arsenic trioxide dust less toxic by turning it into arsenic sulphide, which is more stable than arsenic trioxide. Dr Tom Al from the University of Ottawa is working on this project. Project three looks into stabilizing the arsenic trioxide by incorporating it into cement paste backfill. Project four looks at converting arsenic trioxide into ceramics or vitrified products like glass (Giant Mine Oversight Board 2024b). This conversion would stabilize the arsenic trioxide and make it easier to move. These projects are not completed or have academic literature written on them. However, they are very important to the current scientific research on the Giant Mine.

Public health and safety are among the most important elements of the Giant Mine remediation project. Arsenic is extremely dangerous and can have devastating impacts on human

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health. By exploring the impacts of arsenic on public health, I provide context for my project and highlight the negative impacts of the Giant Mine on people. That requires an expansion of the literature beyond what is simply written about the Giant Mine. In this section, I will include health studies done on arsenic's effects and studies done specifically on the impacts of arsenic at the Giant Mine.

Arsenic trioxide sits in the underground chambers under the Giant Mine site. The WHO places arsenic as one of the ten most hazardous chemicals affecting public health (Palma-Lara et al. 2020, 1). This arsenic trioxide poses a serious threat to the Yellowknife Dene people. This is because arsenic is water-soluble; thus, it leaks into the water and affects health. Various studies have been done on how arsenic affects human health. Arsenic exposure affects the many anatomical systems in the human body. Inorganic arsenic ingestion causes various skin lesions, gastrointestinal issues, as well as negative impacts on the neurological and reproductive systems (Rahman et al. 2009, 197).

One of the biggest threats when it comes to Inorganic Arsenic is the increased risk of cancer. Various studies have found that increased exposure to arsenic leads to an increased risk of cancer, which classifies arsenic as a carcinogen. This increased risk affects many different sites on the body. Thus, increased exposure to this arsenic increases cancer risk in several different sites of the body. The lung is one of the more common sites where cancer can occur after arsenic exposure. This is common if the arsenic is inhaled and is most common in labour workers who work in chemical factories and mines (Palma-Lara et al. 2020, 5). People who live close to waste sites which contain arsenic may also have an increased risk of lung cancer due to arsenic exposure (Palma-Lara et al. 2020, 5). Studies concerning arsenic exposure and cancer are most commonly done in Southeast Asia and South America. It is incredibly concerning to look at this

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through the lens of the Giant Mine. The Giant Mine is an example of a waste site with arsenic; thus, given the above study, we can conclude that there is a risk to those living near it. Skin cancer is also common in humans regularly exposed to arsenic, and there is an increased level of skin cancer in people who have been exposed to arsenic through drinking water (Palma-Lara et al. 2020, 5). There are also increased levels of bladder and kidney cancer in people who have arsenic-contaminated drinking water; once arsenic is consumed, it is excreted through the urine, which puts the urinary tract system at more risk of cancer (Palma-Lara et al. 2020, 5).

The effects mining has on public health go beyond cancer and bodily harm. These effects reach the public and social lives of those affected by mining. These social and ecological impacts have concerning effects on Indigenous peoples due to their close connections to land and the emphasis on community. The persistent pollution of these mines continues long after the mine has stopped operation (White 2013, 57). This is the case with the Giant Mine. Even though mining is not actively taking place at the Giant Mine, the public health risks persist due to the toxic properties of the abandoned site. The Giant Mine fits into much current research on the effects of resource extraction due to its toxicity. With that said, the Yellowknife Dene people make understanding the effects of the mine more complex. Because of this, literature specifically focuses on the ways Indigenous people's public health is affected by resource extraction. These more indirect health effects are as important as the obvious ones and cannot be forgotten. The post-closure phase of mining is most important to the Giant Mine and has the most impact on the Yellowknife Dene people. Participants in a study pointed out the possible barriers to traditional ways of living due to the closure of mines (Myette and Riva 2021, 10). The closure of roads would make it difficult to access the traditional lands of the Indigenous peoples in the area and thus would create barriers. This study also included participants who pointed out the risk of food

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and vegetation contamination and concerns that would make food independence hard to attain (Myette and Riva 2021, 10). If done poorly, the remediation process will create unrest within communities and “be a source of community discontent and local safety concerns” (Myette and Riva 2021, 10). These results show other aspects of public health that are affected by resource extraction in Canada. These all have social and cultural impacts which play a large role in the safety of these communities. These aspects of public health are referred to as indirect pathways to health and can result in more serious direct pathways to health. It is estimated that these social determinants of health shape half of all health outcomes. Because of this, it is important to take these social determinants of health as seriously as the more direct determinants of health.

In this chapter, I have provided readers with the necessary background of the Giant Mine. I have also explored the history of Yellowknives Dene First Nation and provided a brief introduction to the NWT treaties and their main resource collection goals. I also explore the history of the NWT as a territory, the history of the Giant Mine, and a roadmap of how we have arrived at the current state. I have also considered many academic approaches to the Giant Mine. I discussed Indigenous-focused literature, which focuses on the current state and the remediation plan for Giant Mine. This literature critiques the remediation plan by using different concepts, such as traditional knowledge and the colonial aspects of the remediation plan. I also explain the scientific research being done on the site. This literature is important to my project because it provides context and background information needed to critically analyze the effects of the Giant Mine on Yellowknives Dene people. The scientific literature includes various studies on the environment, including geochemistry studies, which are used to better understand the toxicity of the land surrounding the Giant Mine. Lastly, I included a section on the literature focused on the



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public health impacts of arsenic and the Giant Mine to emphasize the dangers the Giant Mine poses to public health.

## **CHAPTER 3: COMPARATIVE ANALYSIS**

### **Introduction**

The future of the Giant Mine is undetermined. The Canadian government would most likely disagree with this statement, but in reality, the remediation plans don't lay out the conclusion of the Giant Mines's toxic legacy. The lack of conclusion confuses conversations surrounding time and risk forward registers. The Giant Mine sits on multiple historical, government, and Indigenous timelines. In this chapter, I will explore these timelines further and discuss how the Canadian Government has approached the timelines of the Giant Mine. I will compare Canada's approach to the Giant Mine with what Indigenous voices are displaying they need. This analysis will provide a deeper exploration of responsibilities and the different registers of risk and time. I aim to express the gaps between the government and Indigenous communities' approaches. There is nothing static about the Giant Mine for the YKDFN. Remediation as a whole is positive for the Giant Mine. This is because remediation processes ensure the Canadian Government is held accountable for its past. It also creates positive change on land as large buildings and sites are demolished. However, the current remediation project at the Giant Mine contains gaps in how communities will be impacted in the long term. Remediation is focused on repairing and mitigating, but not on the YKDFN and their existence on the land for a long time. In this chapter,

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I will utilize a comparative analysis to explore the different timelines of the Giant Mine. I will provide examples of the registers of time and risk and how they differ between the Canadian government and the YKDFN.

Before I discuss the different registers of the future that can be found within the Giant Mine plan, I want to explore the stakeholders involved with the project. These stakeholders have their registers of timeline and risk with this project. Everyone has an agenda, and while the ultimate goal is to remediate the Giant Mine site, there are many different interpretations and approaches to remediation. The Giant Mine Oversight Board outlines the stakeholders on its website (Giant Mine Oversight Board 2024b). Firstly, the project includes the Government of Canada. The Government of Canada is represented through Crown-Indigenous Relations and Northern Affairs Canada. They manage the remediation project alongside the Government of the Northwest Territories. Yellowknives Dene First Nation (YKDFN) is also a large stakeholder in this remediation project. The Giant Mine sits on their traditional territory. Other Indigenous groups who are identified as stakeholders in the project by the Canadian Government include Tłı̨chǫ, North Slave Métis Alliance, and Northwest Territories Métis Nation. Beyond Indigenous stakeholders, the remediation project includes the Mackenzie Valley Land and Water Board, The Giant Mine Oversight Board (GMOB), and the Mackenzie Valley Environmental Impact Review Board. The Giant Mine sits within the limits of the City of Yellowknife. Therefore, the city of Yellowknife has a role in the remediation project.

These stakeholders are incredibly important to the remediation project for the Giant Mine. Still, it must be considered that many other voices are not necessarily included in this list of stakeholders. Most of this comparative analysis will focus on messaging from the YKDFN. Still, it must be acknowledged that just because the governing body of the YKDFN signs an

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agreement or makes a statement does not mean the entire community is on board. In doing the research, it has become increasingly clear that many different voices are present within this community. Some see eye to eye while others do not. Like many groups, one individual or group's opinion on a topic cannot be applied to the entire group. If the YKDFN, as a governing nation, agrees to a policy, there may be community members who do not. This is expressed within this paper. Many different statements, values, and opinions can be true at once, and this paper demonstrates this. This analysis displays various representations of Indigenous voices at different times. This thesis considers these voices because they are still relevant and represent the voices of the community regardless of when they were stated. These voices display a long road of steady anger in the community, and they remain valid and important to this project.

### **Indigenous Futures**

The life expectancy of this project is the first element of this comparative analysis. In 2004, operations at the Giant Mine ceased, and the Government of Canada attained custodianship of the site. The implementation of the Giant Mine remediation started in 2021 and, according to the Government of Canada website, will take ten years to complete. According to Crown-Indigenous Relations and Northern Affairs Canada, this remediation project was originally supposed to cost the Canadian government one billion dollars. Still, it has since more than quadrupled to 4.36 billion dollars (Government of Canada 2022b). The Giant Mine remediation project is now the most expensive in Canadian history. The plans for the remediation of the site include various approaches. On their website, the Canadian Government labels these. They are containing and managing the arsenic trioxide waste over the long term, demolishing and removing all building and debris areas on the surface, remediating surface areas, including Baker Creek, the tailing ponds, open pits, and contaminated soil and waste rock, water

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management and treatment, filling pits and covering pits, remediating the townsite and nearby shorelines (Government of Canada 2021b). The Canadian government discusses the timeline for the remediation and when the mine site will finally be safe. They do not provide a concrete answer. Instead, they state that the remediation will comply with applicable legislation. They emphasize the workshops and engagement to help develop the mine remediation plan (Government of Canada 2021b). This is an example of how government messaging does not recognize the long-term perspectives of the site. This language exposes further gaps as they discuss the long-term management of the site but do not do so in depth.

The life expectancy of the Giant Mine is one of the gaps that can be found when comparing government responses to Indigenous voices. First, let us discuss the policy literature from the government. The timelines of this project are present in various policies and frameworks. On the Canadian government's website dedicated to the Giant Mine, there is more information about the removal of arsenic. The section discusses the risks of the removal of arsenic and the long-term management of the mine, which leads us to conclude that the Giant Mine remediation has no end date on site (Government of Canada, 2021b). This site displays this by listing all of the activities included in remediation, none of which include the removal of arsenic. It also states, "Also, managing the arsenic trioxide dust in place (where it is currently stored) will avoid the health risks to workers who would have had to move the toxic material if the plan included taking it out." (Government of Canada, 2021b). These examples show no outright statement about how the arsenic will not be moved. Instead, more vague mentions are made of arsenic. The Giant Mine Remediation Project Environmental Agreement is an important document because it discusses the future of research at the Giant Mine; much of this research includes more permanent solutions for the Giant Mine but does not discuss the complete removal

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of arsenic from the land (Government of Canada 2015). It is challenging to find a concrete answer from the Canadian Government for the timeline of the Giant Mine. The timelines present lay out the short-term timelines but not the long-term timelines. Thus, the current remediation plan is not in the business of completely removing the arsenic. The agreement does include future research into permanent solutions, but overall, the permanent removal of arsenic is not included. Instead, the Canadian government is looking for methods to manage the arsenic in place because it limits risk. This is clear in the agreement's lack of discussion on permanent solutions. Instead, section 4.2 focuses on the perpetual care of the site, which includes addressing “improvements in records management, communication with future generations, long-term access to funds for the Project” (Government of Canada 2015). This includes the frozen block method mentioned earlier in this paper. If the goal of this project is to limit the risk of arsenic negatively impacting the community's health, then technically, it does that. However, when we listen to Indigenous voices, we can understand that the current frozen block method does not meet their needs or timelines. This approach exposes gaps where there is a need for more Indigenous focus and understanding of the land. This can be better understood through Indigenous voices.

This paper represents the Indigenous voice in news media, podcasts, websites, and Indigenous stories. Yellowknives Dene First Nation has a website dedicated to their stance on the Giant Mine called *Giant Mine Monster*. This website includes various statements from members of the First Nation. Overall, the website displays a dark history and attitude towards the mine. Indigenous voice and representation can be experienced through this website, which is key to this project. The representation of Indigenous voices found on the Giant Mine Monster website can be compared to the language used by the Canadian government. In 2017, interviews took

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place with the Yellowknife Dene people. In this series of interviews, members of the Yellowknife Dene First Nation discussed the legacy of the Giant Mine from their point of view. A couple stands out in terms of the life expectancy of the mine. One YKDFN community member, Elder Muriel Betsina, discusses her fears for future generations. She states, “If we ever have an earthquake, just smelling that, it would just fill your lungs, and you'll die. That's how powerful arsenic is. It's nothing, I mean, it's not fair just to deal with it and freeze it. What about a hundred years from now, when our great-grandchildren, great-great-grandchildren, our grandchildren's siblings are. What kind of lives are they going to have?” (Yellowknives Dene First Nation 2017)

Elder Betsina’s question, “What about a hundred years from now?” is impactful and a question that many impacted by this project ask themselves. She is concerned about what the Giant Mine will look like in 100 hundred years and how it will impact her grandchildren. Elder Betsina discusses that she feels the frozen block method is “not fair” to the Yellowknife Dene First Nation, and she questions what kind of life her grandchildren will have (Yellowknives Dene First Nation 2017). This is not addressed in the remediation plan. There is a gap within the remediation plan regarding the future of this community and the impacts they will continue to suffer because of the mine. The future of this project seems to be an undiscussed and avoided topic. Earlier, I discussed how the Canadian government discusses the timeline of the remediation project. They see the project as containing arsenic trioxide rather than removing it. They state that the removal of the arsenic would be dangerous. The danger of this removal cannot be pushed aside, but Indigenous concerns surrounding the future of the site also cannot be pushed aside. This is an example of the different registers of time and risk present. On the one hand, the Canadian government sees the project as having a timeline and risk level connected to the site's containment. On the other hand, Indigenous communities have a deeper and longer

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understanding of the timeline of this project, and they have a different register of risk because they worry for their future generations. When we compare these two narratives, gaps are exposed. Murial's concerns about her family's future are represented by the Canadian government's different register of time and risk.

Another YKDFN community member named Frank Sangris also discusses the effects of the future in terms of the loss of land the Yellowknife Dene First Nation has had to deal with because of the Giant Mine. "It's a huge loss, it's a huge loss, meaning that the Yellowknives will never go back and regain their lands again or use it again, as our ancestors did, you know, for berry-picking, medicines, all those things. It can never be returned back. I talked to the elders about selecting lands there for land claims, and they said no. That whole area is dead. Why would we want to take land contaminated?" (Yellowknives Dene First Nation 2017). This audio clip is another example of Indigenous voices expressing the idea of a lost future. Frank Sangris expresses concern over the loss of land that his community has suffered because of the Giant Mine. He discusses how the land which was once used for traditional Indigenous practices cannot be utilized for those things again because the land is now contaminated. He states they will "never go back and regain their lands again" and "That whole area is dead." (Yellowknives Dene First Nation 2017). This displays a different but related outlook on Indigenous registers of time, risk, and future. Frank Sangris discusses how this is a huge loss to his community because the land is dead. The land will remain dead if the arsenic remains in the ground and the site is not physically returned to its natural state. The Giant Mine and its current remediation plan do not allow the YKDFN to return to traditional lands. Compared to Frank Sangris's concerns, it is clear that there are gaps between the needs of Indigenous peoples like Frank Sangris and the Canadian government's approach to the site. Frank Sangris discusses how this is a huge loss to his

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community because the land is dead. The land will remain dead if the arsenic remains in the ground and the site is not physically returned to its natural state.

The Giant Mine remediation plan outlines the site's future using specific wording. The current plan aims to “decommission, decontaminate, demolish and remove the majority of existing infrastructure” (Government of Canada 2022a). The site comprises eighty-five buildings, twenty-five debris stockpiles, up to 30 km of the road network, utilities, and fencing. That said, the remediation plan also includes the placement of new infrastructure, which will stay on the site after the first remediation stage (Government of Canada 2022a). Thus, one can assume these structures will sit on this site forever. These structures are a “fence around the central area of the site, thermosyphons for the frozen program, a transport network of roads, culverts and bridge(s) to access the remaining infrastructure, power and communications services, an overland treated water pipeline and near-shore outfall, a non-hazardous waste landfill, a closed portal that can be used for future underground mine access if needed, space that the Yellowknife Historical Society will manage, and a memorial” (Government of Canada 2022a). Remediation is remedying something, particularly reversing or stopping environmental damage. The proposed closure and reclamation plan does not aim to reverse; instead, it mitigates. This mitigation is undoubtedly better than nothing, but if Indigenous voices and views are made a priority, the reversal of the site to its original state would be more prominent. From the statements made by this sample of members of Yellowknives Dene First Nation, it can be concluded that the current remediation plan does not bridge gaps and integrate certain concerns of community members. This is made clear through Elder Betsinal and Frank Sangris's statements. Elder Betsina and Frank Sangris clearly state that the state of the site is of utmost concern to their communities. Elder Betsina focuses more on how she feels it is “unfair” to



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commit to the frozen block method, while Frank Sangris voices concerns about the loss of the land.

The film *Guardians of Eternity* (2015) is also an example of an Indigenous voice that discusses traditional knowledge. The film includes various YKDFN community members. In the film, Mary Rose Sundberg stands outside the mine and explains how she is concerned about the future of the mine site. She states, “It is here forever, and I can't seem to imagine that forever, you know. What about our, my goodness, our future generations will be left with this” (Benoit 2015, 02:37). In the same film Kevin O’Riley from Alternatives North discusses the future care of the site. He describes the ongoing care and maintenance of the site, stating that no matter what is decided, there will always be ongoing water testing because water will get into the chambers and dissolve some of the arsenic (Benoit 2015, 09:29). He also discusses the tailing ponds which also will require care and maintenance forever. Most importantly, he questions where exactly the money, people, and skill sets needed for this perpetual care will come from (Benoit 2015, 10:07). The *Guardians of Eternity* presents an example of Indigenous and Northern voices who are concerned with the future of the mine and what the future it presents.

The timelines of the Giant Mine are also present throughout the existing literature on the Giant Mine. Earlier in this paper, I explored the main academic literature on the Giant Mine. I would like to apply some of this literature to the idea I have presented in my analysis thus far. Slow violence can be applied to the Giant Mine and its timelines. The Giant Mine reinforces Slow violence as a colonial tactic (Sandlos and Keeling 2016, 18). I connected this idea of slow violence to the timelines of the Giant Mine. The permanent pollution caused by arsenic at the Giant Mine site is a form of slow violence that has impacted the YKDFN. Furthermore, the permanence of the arsenic on the Giant Mine site displays how the slow violence at the Giant

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Mine site is not simply historical; rather, it still impacts communities (Sandlos and Keeling 2016, 18). This continuation of violence towards the YKDFN sits on a timeline that does not have an endpoint. The existence of slow violence at the Giant Mine exposes tensions between the plans of the Canadian government and what Indigenous voices are expressing. Without the complete removal of arsenic, slow violence will continue to impact the YKDFN. The community members I have included in this analysis thus far have voiced concern for the future and the continued loss of their land. The government's comfortability of the permanence of arsenic does not fill the gaps between the remediation plan and Indigenous voices. Instead, it widens these gaps and allows the continuation of slow violence.

More concrete examples of how timelines impact the Giant Mine and Yellowknives Dene First Nation exist. This analysis will discuss the way Traditional Knowledge (TK) is applied in the Giant Mine remediation plan and how the timelines of the Giant Mine impact TK. This analysis will also discuss the economic elements of the Giant Mine. The Giant Mine remediation plan has a large economic impact on the surrounding community. The different conceptions of risk impact the economy at the Giant Mine. Exploring TK and the economy allows for a deeper understanding of what is at stake regarding the future of the Giant Mine.

Traditional knowledge is foundational to Indigenous worldviews; thus, it should play a role in the remediation of the Giant Mine. This can be understood through various Indigenous voices. We can also understand traditional knowledge regarding how the Canadian government views and aims to project it in its remediation plan. The Giant Mine Remediation Project Environmental Agreement was signed in June 2015 between Canada, the government of the Northwest Territories, Yellowknives Dene First Nation, the City of Yellowknife, Alternatives North, and the North Slave Metis Alliance (Government of Canada 2015). In principle 2.4, the

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agreement states that parties involved shall carry out the responsibilities outlined in the agreement in a manner which “fully considers available Traditional Knowledge, western science and other technical information”(Government of Canada). The Canadian Council for the Arts defines Traditional knowledge or TK as referring to “tradition-based literary, artistic or scientific works; performances; inventions; scientific discoveries; designs; marks, names and symbols; undisclosed information; and all other tradition-based innovations and creations resulting from intellectual activity in the industrial, scientific, literary or artistic fields”(Canada Council for the Arts n.d.). Traditional knowledge is important to continuing Indigenous culture, languages, and practices. Because of the importance of TK to the YKDFN, it must be included in the remediation of the Giant Mine because it acknowledges and ensures that Indigenous values are being implemented. It must be acknowledged that Yellowknives Dene First Nation signed off on this agreement in 2015, meaning it met their expectations and requirements. This analysis does not aim to discredit this agreement and the role the YKDFN played in this agreement. Rather, my comparative analysis of the use of traditional aims to explore gaps between registers of time and risk as shown by the Canadian government and the YKDFN.

Traditional knowledge has a role in existing literature on the Giant Mine. Researchers and academics have pointed out some of the gaps that the lack of traditional knowledge creates. These researchers have found that remediation work must be altered beyond technical and scientific solutions. Instead, more traditional knowledge should be implemented to meet the needs of the YKDFN (Beckett 2021, 1405). Critical research on the remediation of the Giant Mine points to more gaps in knowledge. The Giant Mine remediation plan uses traditional knowledge and traditional knowledge embedded within the environmental agreement. However, research done on the actual implementation of traditional knowledge states it is a “shallow nature

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of engagement” (Sandlos and Keeling 2016a, 285). Traditional knowledge can be connected to the different registers of time and risk within the remediation plan. Including traditional knowledge in the Giant Mine remediation plan ensures that Indigenous values are being considered. This would also include the inclusion of Indigenous beliefs of body and land, as well as Indigenous beliefs surrounding the future of land. Without traditional knowledge, Indigenous futures are not the priority, and their value systems are not at the center of the healing process at the Giant Mine. When traditional knowledge is the center of healing, Indigenous futures and timelines are being made a priority space for the healing of the land, thus creating a greater chance of the land becoming safe for the communities.

An example of Traditional Knowledge within Indigenous Voice is a 2020 article published by Cabin Radio by Emily Blake. In this article, Ndilq Chief Ernest Betsina states, “Our people are the ones best-placed to heal the land,” and “the core of this traditional knowledge is land management, which is embedded in Dene culture” (Betsina). This quote displays the context in which the YKDFN pushes for more involvement in the remediation project. In this quote, Ernest Betsina expresses frustration over excluding the YKDFN from the site management. He also expresses the importance of traditional knowledge to the community and the project. This example of an Indigenous voice clearly shows that traditional knowledge is not utilized to the level some YKDFN members feel it should be. That said, traditional knowledge's role in the remediation of the Giant Mine goes beyond procurement. Traditional knowledge is the final step in full remediation because it helps restore relationships with the land (Beckett 2021, 1405). This can be further connected to Indigenous futures on land. With traditional knowledge implemented in remediation, land relationships can be fully restored. Thus, Indigenous futures on the land will be more positive. This displays how crucial traditional knowledge is in the

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remediation plan. This thesis as a whole is approached with a land and body foundation which places Indigenous land and body in constant connection. Traditional knowledge accounts for these connections; thus, Indigenous bodies and communities are considered when traditional knowledge is used. Without traditional knowledge, Indigenous bodies may be left behind in the remediation project, and the healing of the land will take place using Western and colonial narratives rather than Indigenous knowledge.

Healing is an incredibly important aspect of the full remediation of the Giant Mine site. However, the economic elements of this project are also incredibly important. The Giant Mine has always had a large economic impact on the area. The economic success of the early days of the Giant Mine greatly impacted those who worked at the mine and profited from it. With that said, this wealth often excluded Yellowknives Dene First Nation. Remediation of the Giant Mine site is now listed at \$4.36 billion (Government of Canada 2022b). Northerners who live in Yellowknife and the YKDFN have called for the money to stay in the community. This would be done by hiring local contractors and labourers to complete this labour. The billions of dollars spent on remediation could also serve the community financially if they were hired for the remediation. This could create a positive impact on the YKDFN from the Giant Mine, which has caused serious harm to the community. The different narratives over the past ten years need to be acknowledged. Historically, YKDFN community members have expressed disappointment in the lack of Indigenous employment for the Giant Mine remediation project. However, there have been developments from the government in response to these concerns. Procurement agreements have been established to meet the YKDFN's needs, but some community members are still unsatisfied. In this comparative analysis section, I will analyze the different government documents that discuss the remediation plan's economic impact. I will also discuss government

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agreements and documentation which aim to solve some of the issues with economic opportunities for the YKDFN. These agreements have had many impacts on the YKDFN, and many community members have shared their thoughts. These economic impacts have their timelines and shape the futures of the YKDFN in their ways.

We can look at the Giant Monster website again for representation of Indigenous voices on economic impacts. In one of the clips, Yellowknife Dene members discuss the compensation laid out in the current Environment, Health, Safety, and Community Policy. In this interview, Bobby Drygeese discusses pushing for proper contracting with the remediation project. They were only offered 25-year contracts, but the community wanted longer contracts. Bobby Drygeese states, “They're trying to give us only a 25-year contract, and we said "no, we want a hundred-year contract" to make sure it's going to make sure it's going to be clean. Because we live here, so we're going to make sure it's safe for our families.” (Yellowknives Dene First Nation 2017). In this quotation, Bobby Drygeese expresses disappointment in the current economic opportunities available to the YKDFN. Bobby Drygeese’s disappointment in the current contracts provided to the community connects deeply to ideas of Indigenous futures and timelines. The timelines that the government has set out only account for 25 years of work, and Indigenous peoples are, at this point, only going to be hired for 25 years. On the other hand, the site will remain toxic for hundreds of years. When the 25-year contacts are up, who will be employed to manage the site? There is a clear and large gap between the government's timeline for this project and the YKDFN’s timeline. The economic state of the YKDFN is intricately linked with the community's future. Community members are trying to ensure that they remain a priority for the future of the mine management.

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A closer look at the environment, health, safety, and community policy shows that a specific point is made about economic opportunities. This point is “The GMRP will implement strategies to maximize the economic opportunities for Northerners and local Aboriginal people through employment and procurement.” (Government of Canada 2014). This is a commitment the Giant Mine Remediation Plan committed itself to when it was being planned. These commitments were made more concrete through a series of employment goals set out by the remediation project. These employment goals aimed to ensure that Indigenous and Northern workers saw economic benefits from the remediation project. The summer 2020 Giant Mine newsletter made these initial target ranges public. Throughout the history of the remediation project, these targets have yet to be met.

The 4.36 billion dollars spent on the remediation of the Giant Mine can potentially bring some serious economic benefit to the YKDFN and northerners. Still, community members have not seen this benefit as the remediation project fails to meet its procurement goals. A 2021 article by Brett McGarry displays the realities of economic opportunity at the Giant Mine. The early days of the mine cleanup included millions of dollars in contracts awarded to Indigenous groups. However, Community members say this inclusion only refers to the clean-up of the site, not the remediation (McGarry 2021). For the remediation project, Indigenous compare will have aggregate supply contracts, which are smaller, low-value contracts. The problem with these contracts is that they don't allow Yellowknives Dene people to invest significantly in equipment and supplies. Returning to Bobby Drygeese Drygeese's comments on Giant Mine contracts. Bobby Drygeese discusses that because they live here and care about the land, the YKDFN should be prioritized when seeking contractors for the remediation work. Bobby Drygeese then states, “So, that's why we're trying to push for that right now, and hopefully the contracts and all

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that they continue, and make sure it's done the right way.” (Yellowknives Dene First Nation 2017).

In 2023, the Canadian government and the Yellowknives Dene First Nation signed a procurement agreement (Government of Canada 2023). This media release for the agreement furthers the Canadian government's commitment to Yellowknives Dene First Nation. On their website, the Government of Canada states they are “affirming the tools and resources the Giant Mine Remediation Project will use to facilitate the participation of Indigenous businesses and community members in the work generated by the Project. This includes prioritizing contracts to Indigenous-owned businesses in the community during the Project (Government of Canada 2023). The agreement cites Chief Fred Sangris, Ndiłq Chief of the Yellowknives Dene First Nation and Chief Edward Sangris Dettah, Chief of the Yellowknives Dene First Nation. The chiefs discuss how this agreement can be used to hold Canada accountable and increase Dene's oversight in the remediation project. They also discuss the importance of the involvement of the YKDFN in this project, stating that Dene Nation's commitment to the environment makes them important stakeholders (Government of Canada 2023). In this agreement, Canada “confirmed its commitment to ensuring increased procurement opportunities to the Yellowknives Dene First Nation and other local Indigenous Peoples, affirming the tools and resources the Giant Mine Remediation Project will use to facilitate the participation of Indigenous businesses and members of the community in work generated by the Project” (Government of Canada 2023). This agreement was a move in the positive direction as it showed the Canadian government was showing signs of listening to the YKDFN.

The Canadian government is still struggling to meet their commitments after the signed procurement agreement. A Cabin Radio article published on March 11, 2024, displays how the



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Canadian government struggles to meet employment goals (Williams 2024). The Giant Mine remediation project has generated hundreds of jobs in the area. However, the Giant Mine Oversight Board still questions exactly where these jobs are going, even after the 2023 procurement agreement. The target range for Northern Indigenous employment is 25 to 35%, and the target range for employed Northerners is 55 to 70%. With that said, the Giant Mine is falling behind on its commitments. A recent article was published by the local newsgroup Cabin Radio discussing the procurement levels at the Giant Mine. This article states that in the 2022-2023 work year, only 18% of employees were Indigenous, which falls behind the 25% -35 % goals set out by the remediation project (Williams 2024). Only 36% of employment went to northerners, which falls considerably short of the 55-70% goal (Williams 2024). Procurement levels are one way the Canadian government can commit to including Indigenous voices. The more Indigenous employment on the site, the more money is kept within the communities. This allows for Indigenous futures to be made a priority because the care and maintenance of the site will be important in the long run.

While the Canadian government has not yet met many of the procurement goals, it is still worthwhile to discuss how the strength of Indigenous voices may have informed new agreements that move in a positive direction for the Giant Mine Remediation Project. As displayed in this section, many community members have expressed their disappointment in how the procurement has been handled on the remediation site. They have protested and made their voices heard. Because of this protest and community action, the procurement agreement was signed, signifying the Canadian government's further commitment. Agreements like this can be interpreted as a positive step forward for Indigenous futures. While the goals have not been met quite yet, hopefully, Indigenous employment will grow in the next couple of years. This would close some

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gaps between the Canadian government and the YKDFN. The YKDFN has a higher level of risk and more at stake in the Giant Mine remediation because of its connections to the land. The community is committed to the land, and thus, when they are given more employment opportunities, the gap between the chances of the Giant Mine returning to its original state grows. This allows the YKDFN to have more say in their futures on the land and ensure that the work being done heals the land for future generations.

In conclusion, the current Giant Mine remediation plans lack a complete conclusion to the project. The arsenic underground will always remain, and the site will never be completely free of the toxic legacies of the Giant Mine. This chapter focuses on how this lack of conclusion has impacted Indigenous futures. The Canadian government and the YKDFN display different registers of time and risk. There are gaps between what Indigenous voices display they need for their communities' future and the Canadian government's plan. In this chapter, I used quotes from the media to display Indigenous voices. These voices made it clear that they were concerned for the future of the land. They express concern for their future generations on the land and their health. The current plan aims for mitigation rather than a complete remediation of the site. I use the examples of traditional knowledge use and economic impacts to display more concrete examples of how the future is seen and utilized within the Giant Mine remediation plan. There have been steps forward as procurement agreements have been signed, but overall, the future of the YKDFN on the land and their future generations on the land will not happen unless the arsenic is removed. Thus, it is important to point out that there may not be a solution. It is possible that no remediation plan, with our current technology, will be able to meet the needs of the future of the YKDFN. With that said, Indigenous voices are still important, and they must be listened to. Future remediation development should meet the needs of these Indigenous voices

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and bridge the many gaps I have pointed out in this chapter. Hopefully, the future holds technological development, which makes this a possibility.

#### **CHAPTER 4: CONCLUSION**

The story of the Giant Mine is a devastating one. The toxic and hostile environment of the mine is large and imposing, even monstrous. The Yellowknives Dene First Nation has dealt with these negative impacts for decades, and it is doubtful that they will ever have this land returned to them in the healthy state it was before the mining imposition. At this point, the Giant Mine will remain a constant threat to the health and safety of the YKDFN and all the people, animals, and environment. But, this dark and imposing history does not reach the city of Yellowknife. I do not want this project to abnormalize those impacted by the Giant Mine, nor do I want it to paint the YKDFN as damaged or impaired. This would not represent what I saw during my trip to Yellowknife. Rather than being damaged, I saw a community thriving regardless of the Giant monster looming ten minutes from the city center.

Looking back on this trip, my time in Yellowknife gave me a new perspective on my project because I had the opportunity to experience a community so rich in life and resiliency. It is cold, windy, snowy, and dark in the winter, but Yellowknifers have taken hold of their climate and made the best of it. Restaurants seemingly empty from the outside are packed with people

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and come to life when you step inside. They have adapted to the cold and ice and used it to their advantage. At any given moment, snowmobiles are ripping across the Great Slave Lake. Cars are taking advantage of the ice road across the lake and cutting their commute into the city in half by driving across the lake. These ice roads connect communities such as Dettah to the main city of Yellowknife, and this allows these communities to access essentials like gas and groceries more easily. The homes seemed warm and cozy; although it was -20 outside, the downtown area was bustling with people. Many of them wear more traditional styles of parkas and moccasins. I thought about my home in Edmonton and how we sometimes seem to fear the cold. In Yellowknife, there is no avoiding the cold. You simply embrace it as part of your life.

The Giant Mine is often viewed in terms of its horrific environmental impact. While it has undoubtedly had various negative impacts on plant and animal life, the world around the Giant Mine still thrives regardless of the toxicity that lies underground. Smaller trees exist on and around the site, which is an act of resistance. Nature in the Northwest Territories thrives regardless of the Giant Mine. During my trip, I had the chance to search for the aurora borealis. We ended up driving to an outlook close to the Giant Mine site. I witnessed beautiful and bright northern lights dancing across the sky that night. The Dene people say the aurora borealis was created in a fire built by the world's creator and that they watch over us. They also believe that the lights are often the spirits of those who have left Earth. I have included this because the northern lights dancing over the land show a sense of life and resistance. The Northern lights, in all of their colourful and lively existence, are such a stark contrast to the hostile lands of the Giant Mine. They could be seen as an example of Northern prosperity and essence. They represent the resilience and richness of life, which can be seen in the surroundings of the Giant Mine.

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During my time in Yellowknife, I witnessed the hostile environment of the Giant Mine and the way it has changed the land it sits on forever. But I also witnessed a community filled with perseverance and lively culture. As a Canadian, I have always wanted to explore my home country from coast to coast and have traveled to almost all of Canada's provinces and territories. However, throughout my travels, I have missed the Northwest Territories, and thus, I have never experienced a community with such evident and present Indigenous culture. Although short, during my time in Yellowknife, I saw more evident Indigenous culture and life than anywhere else in Canada. I saw this through the clothing people wore downtown, the implementation of Indigenous tourism, and the prioritization of connections to neighbouring communities. This is not to say it's not present in other places in Canada. Indigenous culture can be found throughout Canada, but it seems drowned out by the noise of Canadian life. In the small community of Yellowknife, Indigenous culture did not seem to be as drowned out by the noise. Instead, it stood loud and clear to me.

I bring my reflections into this project to display the story of the Giant Mine and the life it affects as lively and strong. It can be easy to research a case like the Giant Mine and get stuck in a hole of how distressing the Giant Mine is. With its seemingly never-ending impact on these communities, it has the opportunity to continue to harm the YKDFN for centuries to come. However, only focusing on the negative sections of this story leaves out a separate side of the YKDFN and the community of Yellowknife. It is easy for a researcher to find the many hardships and struggles Indigenous peoples and Canada have dealt with. Some people have been systematically targeted in Canadian history, and thus, there is a deep history of hurt. However, when we solely focus on how Indigenous people in Canada have been harmed, we tend to leave out the rich and colourful culture which has persevered. It would be easy for me to leave you

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with a picture in your head of a damaged person, but that wouldn't be the complete truth. While the YKDFN states clearly in their messaging that they are hurt and have been negatively impacted by the Giant Mine, from what I have read and seen throughout this project, I feel confident in saying that they are also a community that has fought tirelessly against the injustices that have affected them. Thus, they show immense strength and perseverance.

The timeline and the complete story of the Giant Mine is complicated but slowly changing. There has been immense growth within the remediation project. Slowly, more agreements are being made to ensure the Canadian government commits to the promises made to Indigenous communities. There is an increase in research in hopes of eventually finding a permanent solution for the mine, which includes the removal of arsenic. Many of these projects are in progress but show potential for change within the remediation plans. This could mean that the Indigenous future could gain security on the land on which the Giant Mine sits.

### **Implications**

Northern resource extraction has the potential to rise, given the melting of Arctic ice. As the polar ice melts, states are looking to take advantage of the new natural resources available. These states want access to oil and gas in the Arctic. According to the World Wildlife Fund, the Arctic holds 22% of the world's oil and gas reserves that have been undiscovered. If states are let into these zones to mine for natural resources, there will be detrimental impacts on the Arctic climate. This potential development completely relies on climate change and the melting of the Arctic ice, which could have detrimental effects on the environment in the Arctic. Because of this, Arctic sovereignty and natural resource development have environmental significance. Increased natural resource mining on Indigenous lands has detrimental effects on the health of the land and, therefore, the health of Indigenous peoples and their bodies. As the Arctic melts, new shipping

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and marine transportation routes open up. Using Arctic shipping routes could decrease the time that shipping takes. Research on shipping route times found that European route timing could dramatically decrease using Arctic shipping routes (Melia et al. 2016, 9726). According to Howard (2009), the Arctic is a new frontier of natural resource extraction in a world where natural resources are becoming limited and scarce. He terms this a “resource war” and hypothesizes that it is plausible that one will break out in the future (Howard 2009, 17).

The Giant Mine can serve as an example of northern resource extraction that has seriously negatively impacted Indigenous communities. As discussed in this thesis, Northern resource extraction impacts the health of Indigenous peoples, takes away traditional lands of Indigenous communities, and impacts their traditional and cultural lives. Members of the YKDFN often refer to the Giant Mine as a Giant Monster and have made it clear that the Giant Mine has caused several levels of harm to their communities. If further resource extraction is to be pursued by the Canadian government and states worldwide, Indigenous health and well-being must be at the forefront of decisions. The Giant Mine should be an example of what should not happen regarding Northern resource extraction. The Giant Mine began production with a serious lack of regulations and consultation. As a result, the YKDFN will deal with the impact of the Giant Mine for the foreseeable future. The Canadian government now has a 4.36 billion dollar remediation to manage. The cost of the remediation project has heavily outweighed the early economic prosperity the Giant Mine brought.

Research on the Giant Mine and other northern resource extraction projects has the potential to bring more awareness to the harmful impacts of Northern resource development on Indigenous communities. This could encourage deeper thought in the future surrounding

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resource extraction and possibly put a stop to the harmful impacts northern resource extraction has.

In this thesis, I have explored how the Giant Mine has impacted Yellowknives Dene First Nation and their future on their land. Through the case study of the Giant Mine, this paper utilized a specific example of Northern resource extraction in Canada. The Giant Mine is an incredibly important case study because of its various negative impacts on the YKDFN and the size of the remediation project managed by the Canadian government.

I began with a historical explanation of Yellowknives Dene First Nation and the Giant Mine. I also explored the existing academic literature on the Giant Mine. A smaller body of literature focuses on the impacts the Giant Mine has had on Indigenous communities. These pieces display how the Giant Mine has disproportionately impacted the YKDFN. They display a historical background and explore ideas such as slow violence, the need for traditional knowledge, and mining labour in Indigenous communities. Much of the Indigenous-focused literature critiques the lack of Indigenous narrative and prioritization within the Giant Mine remediation plan. A significant portion of existing literature currently focuses on the scientific and technical side of the Giant Mine. This literature includes geochemistry studies and technical research on existing and future solutions at the Giant Mine site. I also discussed the various public health impacts of the Giant Mine on the YKDFN and the danger of arsenic to the human body.

I then utilize comparative analysis to display Indigenous voices and compare them to content the Canadian government has released on the Giant Mine. Indigenous voice is displayed through media, including websites, audio files, and news media. This analysis has displayed discrepancies between the messaging of the Canadian government and what Indigenous voices



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are calling for for their future. Often, the statements and commitments made by the Canadian government lack a conclusion to the remediation of the Giant Mine. Instead, they refer to the perpetual existence of arsenic underground. I explore this and compare it to how Indigenous voices approach their futures on the land. The strength of YKDFN voices has begun to make changes within the remediation project, and promising agreements have been signed, hopefully strengthening the Canadian government's commitment to the YKDFN.

This thesis has also utilized engaged acclimatization. This research technique encourages a level of immersion and research in a respectful and relational manner. My trip to Yellowknife opened my research and gave me a personal context to apply to this project. During my trip, I witnessed the hostility of Giant Mine and how the Giant Mine creates a dangerous and antagonistic environment. This hostile environment prevents the YKDFN from using and protecting the traditional land they have historically used for hunting and medicine gathering. I compare this hostile environment to the bright and persevering community in Yellowknife.

This thesis was written amid a changing environment at the Giant Mine rather than after the conclusion of the work. The Giant Mine will always be important to the YKDFN and those impacted by it because, at this point in time, the arsenic underground will always be present. The YKDFN continues to stand up for their beliefs and their communities. While there has been positive movement forward, the Giant Mine and its remediation project will continue to change. One can hope these changes will positively impact the YKDFN and meet more of the calls for action the YKDFN has expressed.

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