

Toxic Landscapes and Technofossils:

A Speculative Anthology of Flin Flon, Manitoba

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Abstract

This thesis explores the mirrored worlds created by the mining industry in Flin Flon, Manitoba. Named after an explorer from the novel, *The Sunless City*, Flin Flon is a terrain born from the curious intersection of geological possibility, mining, and science fiction. The town is negotiating its exploitation of mineral wealth while simultaneously coming to terms with its own environmental and economic exhaustion.

This project explores and investigates the absurd and unintended consequences of extraction through a series of constructed narratives inspired by the novel's protagonist, Flintabbatey Flonatin. These narratives are used to catalogue a multitude of transformative events in the creation of new natures and new futures. Comparing fictions to core samples and technofossils, the relationship between Flin Flon and its spectral underworld are revealed as two conflicting worlds that continuously bleed and leach into one another.

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To my advisor Ozayr Saloojee, whose positivity, guidance, and insights have sparked the joy in both this thesis and a future lifetimes worth of curiosities.

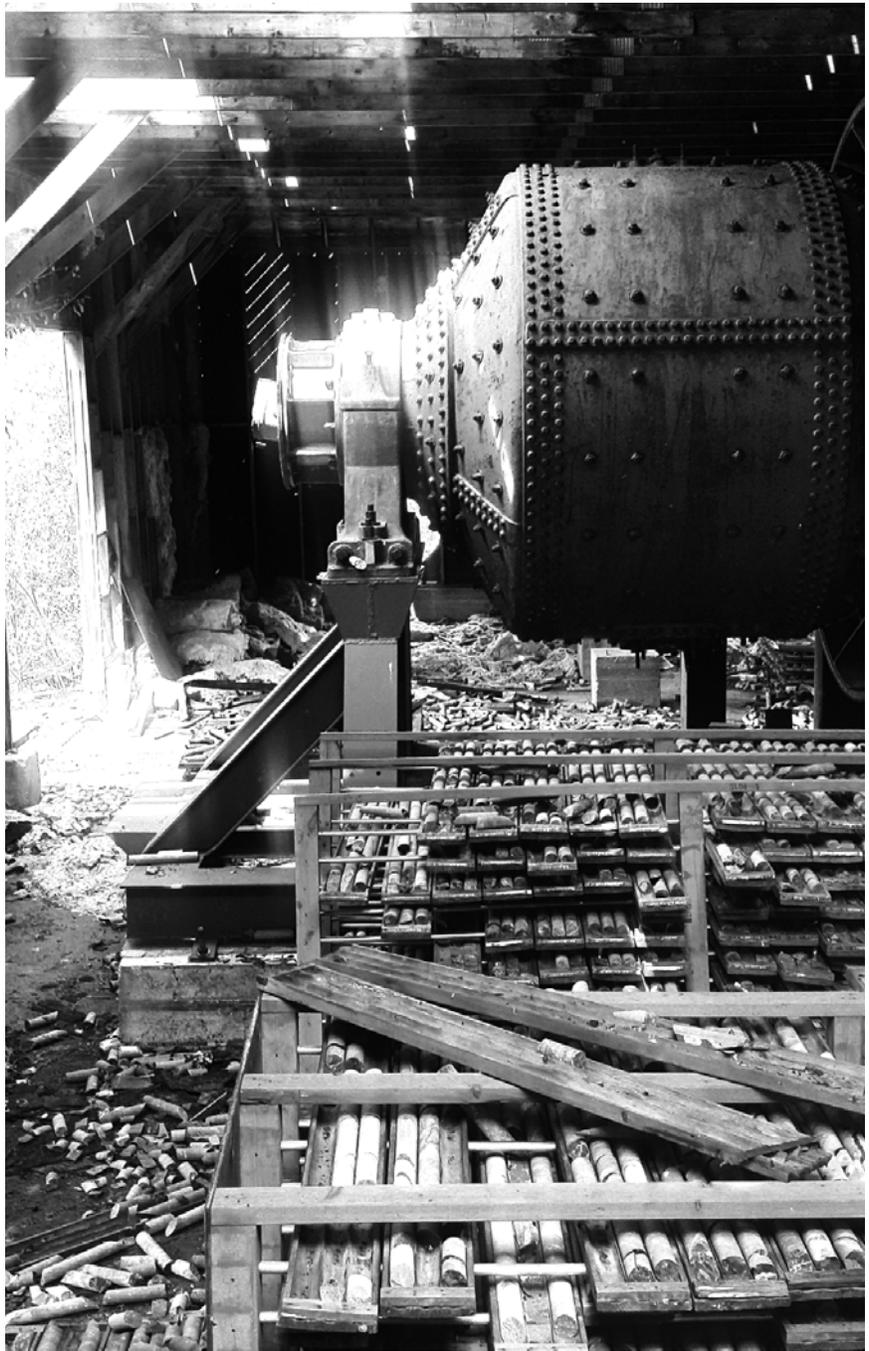
To the many listening ears of my friends and colleagues, who have shared a coffee, their time, and friendship.

To my parents Gary and Julie, for their endless patience, understanding and support. And to my brothers Adrian and Chris, who have come on every adventure with me. This accomplishment would not have been possible without you.

Thank you.

*“Alph, the sacred river, ran
Through caverns measureless to man
Down to a sunless sea.”*

-Kubla Khan; or, A Vision in a Dream



Core Samples and Ball
Mill Pulverizer from
an Abandoned Gold
Mine

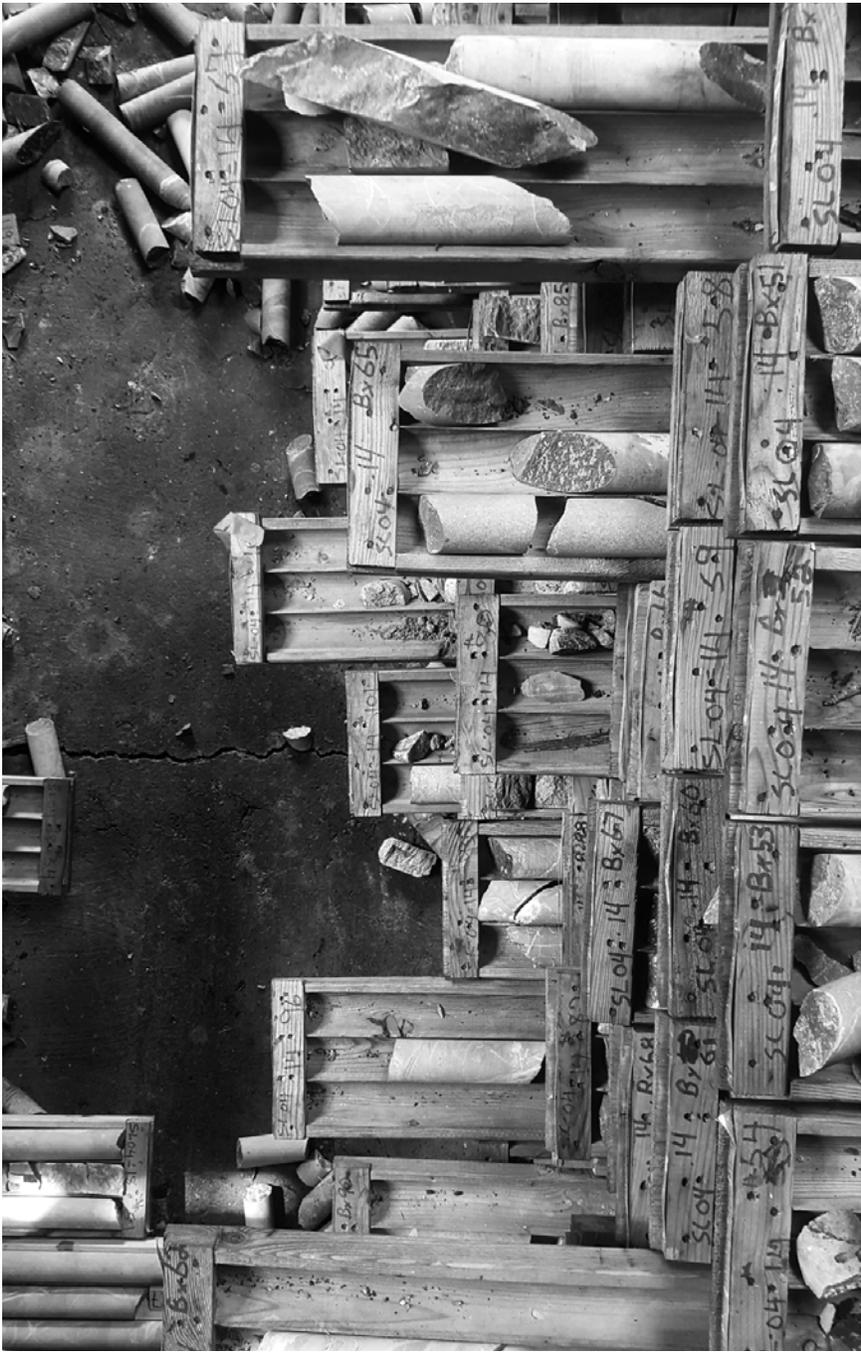
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an Abandoned Gold
Mine





Core Samples from
an Abandoned Gold
Mine

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Hiking in Flin Flon



Landscape, 1.5 km
from 777 Smelter

Preface

My investigation into Flin Flon and discovery of *The Sunless City* was entirely by chance. At the time, I was researching ideas related to the effects of resource extraction, production, and technology upon the earth; the Anthropocene. Broadly defined, it is our current human age that has transformed institutional structures, severing our relationship with land.¹

I began my explorations in resource extraction by visiting the abandoned mines of Shoal Lake, Ontario (the home of Shoal Lake 40 First Nation and the Greater Winnipeg Water District Aqueduct intake). Despite supplying a city of almost one million with fresh water - Shoal Lake 40 is a First Nations community that has lived under a boil water advisory since 1997.²

¹ Heather Davis and Zoe Todd, "On the Importance of a Date, or Decolonizing the Anthropocene," *ACME: An International Journal for Critical Geographies* 16, no. 4 (December 20, 2017): , <https://www.acme-journal.org/index.php/acme/article/view/1539>.

² City Of Winnipeg, "Shoal Lake and Winnipeg's Drinking Water," Water and Waste Department, October 4, 2018, , accessed March 26, 2019, <https://winnipeg.ca/waterandwaste/water/shoalLake.stm>.



Core Samples in
Storage Trays



The Red Lake Beyond

The number and scale of orphaned and abandoned mines on a critical fresh water resource was astounding and heartbreaking. Shoal Lake is not an exception; There are well over 6,000 orphaned and abandoned mines in Ontario alone.³

In researching these extraction-marked geologies and landscapes, I learned of a strange mining town on the border of Saskatchewan and Manitoba. Flin Flon was described to me as an other-worldly city with Mars-red terrain, a crimson lake, and where acid rain scorched all the vegetation in a 5 kilometer radius. The old smoke stacks had spread pollution up to 100 kilometers away.⁴

I immediately planned a research trip to Northern Manitoba with my father. We stayed in an empty, tobacco-stained motel and hiked for hours over weathered rock to catch a glimpse of the mysterious red lake that Hudbay Minerals conceals beyond a giant berm on Crown land.^{5,6} The landscape was astoundingly alien. It was barren and exposed, displaying the burns caused by one century of industry. It was captivated and arresting; a terrifyingly sublime catalogue of the destructive forces of humans, technology, and mineral extraction.

I took photographs. I collected geological samples. I visited the small town's museums and scoured open city records. I purchased a copy of *The Sunless City*, the novel that inspired Flin Flon's name. It wasn't until months later that my research began connecting the dots between historical documents and the novel.

3 Government of Ontario Ministry of Energy, Northern Development and Mines, Abandoned Mines Information System - AMIS, November 15, 2018, raw data set.

4 Stephen E. Kesler and Adam F. Simon, *Mineral Resources, Economics and the Environment* (Cambridge: Cambridge University Press, 2015). 223

5 Unlisted Provincial Property Assessment Maps for Manitoba and Saskatchewan "Creighton - Northern Town," map, SAMA View, accessed March 16, 2019, <http://samaview.sama.sk.ca/sama/Map.aspx>.

6 "Manitoba Assessment Online Map," Government of Manitoba, accessed March 16, 2019, <https://web22.gov.mb.ca/mao/map/index.html>.



Zinc Tailings
in Flin Flon

The Sunless City was written in 1905 by the pulp-fiction writer and journalist J.E. Preston Muddock. A subject of England's Colonial age, he travelled with the East India Company to Calcutta where he experienced The Indian Rebellion of 1857.⁷ Following his time there, he travelled to the Americas and to China before retiring to England. His life coincided with the era of expansion and mineral exploration into the Canadian North; a time when Hudson's Bay Company was the dominant force and influence on North American trade and settlement.

The Sunless City follows the adventurer, Flintabbatey Flonatin in his quest to discover a hollow earth and its inhabitants. Travelling down a subterranean river in a fish-shaped submarine, he encounters multiple magical worlds; halls of prismatic jewels, petrified jungles, architectural ruins, and a society of "inferior"⁸ pre-humans. He discovers a Valley of Gold, that exposes an ugly and insatiable greed within:

The gold had suddenly become his god. He literally fell down and worshipped it. He lifted up great lumps, and staggered so under the weight he was obliged to put them down again. And then he almost wept because he could not convey them away. He stood in a world of gold --- master of all --- and yet not a single grain of it was of the slightest use to him... He neglected to take his meals, and even to snuff. His own life --- his own safety --- the objects of his journey --- everything gave place to the one and all-absorbing thought of his suddenly-acquired wealth.⁹

7 J.E. Preston Muddock, *Pages from an Adventurous Life* (New York, NY: M. Kennerley, 1907), accessed March 26, 2019.

8 Muddock, J. E. Preston. *The Sunless City: From the Papers and Diaries of the Late Josiah Flintabbatey Flonatin*. 1905. 145

9 Ibid, 102-103.

It was this Valley of Gold that inspired prospector Tom Creighton^{10,11} to name his discovery of gold ore after Flintabbatey Flonatin. What follows with this thesis is a reflection of *The Sunless City* in relation to Flin Flon, and the bizarre intersections that exist between fiction and reality. The two share unique parallel histories and futures that unite them in adventure, discovery, enterprise, misery, oddity, and the drawing of new boundaries. These relations illustrate issues of industrialization, commodification, class systems, racialized and gendered views. They highlight too, a fate that has been predetermined by *The Sunless City*.

¹⁰ Tom Creighton began to prospect in Northern Saskatchewan in 1911 with partner Dan Mosher. In 1913 they found gold on Amisk Lake, which precipitated a gold rush in the region. After forming The Beaver Lake Gold Mining Company, Creighton ended his business relationship to seek further claims. In 1914, Creighton took notice of an associates geological samples and was taken to the site. After staking Flin Flon Mine in 1915, it was held up by investors until 1922 when it was sold to the Complex Ore Recoveries Company. Creighton lived out the rest of his life in the town of Creighton, Saskatchewan. A cairn dedicated to him reads, "His wants were few, His habits simple, The bush his wide domain."

¹¹ "Thomas Creighton," The Official Website of Creighton SK, accessed March 26, 2019, <http://www.townofcreighton.ca/thomas-creighton.html>.



Chapter 1: Approach

Slag Sample from an
Abandoned Mine Site



Introduction

This thesis seeks to understand the impacts of industrialization at its source of extraction, and to acknowledge the unseen frameworks sustaining cities and modern life. It is a meditation on territories with contentious pasts, and the act of viewing another community as an outsider.

Narrative + Representation

Northern Canada has been the focus of the resource extraction industry for over a century, and Flin Flon is no exception. It bears the mark of the mining industry; its terrains having been erased and rewritten numerous times. As Flin Flon transitions from a period of resource wealth, and as workers move away, the stories of this place decline and fade.

Oral histories and storytelling have framed this thesis. Supplementing these narratives are government documents: policy and the raw historical data that provided the structural framework necessary for Manitoba's resource towns to come into existence. The body of work that follows blends the quantitative and factual with the immeasurable and imaginative narratives surrounding Flin Flon's history.

Representing climate change through fictive narratives engages profound questions about our core values and beliefs in the context of our relationship with land. Through this methodology, I examine climate change as a philosophical problem;¹ one with cultural implications and byproducts that have informed urban and architectural analysis. The role of the imagination is necessary in overcoming the complacency of our perceived conditions, our current systematic frameworks, and the paralysis caused by the overwhelming weight of our environmental reality.

“The great irreplaceability of fiction is that it makes possible the imagining of possibilities.”²

¹ Learning how to Die in the Anthropocene, 20-21.

² Amitav Ghosh, *The Great Derangement: Climate Change and the Unthinkable* (Chicago: University of Chicago Press, 2017).

Literary History of Flin Flon

Stories are the basis of Flin Flon's identity. It has been said the city wrote *itself* into existence.¹

Here is a tale. The prospector and his team found a copy of *The Sunless City* on a portage of the Churchill River. It is said that the back half of the novel was missing, and the team never knew the ending to the story.²

After the discovery of gold deposits, Creighton makes a claim and names it after Flintabbatey Flonatin. In the 1960's, the town of Flin Flon rebrands the adventurer to suit a frontier identity. They call their mascot 'Flinty'. They dress him in prospectors clothing. He becomes an icon for the new mining community.³

During the age of staking land claims (following Manitoba's expansion) in the Canadian Shield, there was a romance to the conquering of frontier territories. *The Lobstick Trail*, another tale, was written in the throes of this colonial project. Published in 1922, it follows Kirk Brander, the novel's hero who is fascinated by the Canadian North. He races a dog sled from The Pas, Manitoba to what is now Flin Flon, during the rush to claim land. He falls in love with the daughter of a prospector. Together, they secure the option on the land and begin the development process:

"It's going to be bigger than I dreamed," he said full of boyish enthusiasm. We'll have to bring power here, enough power to work one of the biggest mines on the continent. [...] We'll have to put in a cofferdam and drain half the lake to work the new ore-body properly. It'll take a year or more for the government to build the railway in from The Pas- but that's settled. And we'll have a town of our own, Jule,

1 Birk Sproxton, "Novels That Named a City: Fictional Pretexts of Flin Flon," ed. Robert Alexander Wardlaugh, in *Toward Defining the Prairies: Region, Culture, and History* (Winnipeg, MB: University of Manitoba Press, 2001).

2 Ibid, 139

3 Ibid.

with five thousand people. Jove, girl, there's a man-sized job right here that'll take a whole lifetime."⁴

Studying Flin Flon's real and literary histories in parallel established compelling questions and considerations for who writes our narratives, and about the creation of a common history. As Birk Sproxtton wrote,

"[...] we have a neat variation on Robert Kroetsch's notion that we don't exist until someone tells our story. By an amazing narrative twist, Flin Flon was born before it existed, its story twice-told before the place came to be."⁵

⁴ Durkin, Douglas. *The Lobstick Trail*. New York, NY: Grosset & Dunlap Publishers, 1922. May 01, 2010. Accessed January 8, 2019. <https://hdl.handle.net/2027/uc2.ark:/13960/t5q816c07>, 331.

⁵ Sproxtton, "Novels That Named a City: Fictional Pretexts of Flin Flon," in *Toward Defining the Prairies: Region, Culture, and History*.

Ergodic Literature

Ergodic literature is book with no prescriptive path, where the rules of reading the book may not be included in the text. It is the responsibility of readers to flip the pages back and forth, to move their eyes along pages that may not simply read left to right, front to back. Each reading is a unique journey of decoding and interpretation.

The City of Flin Flon had a history before it was built; its story continues to be told and retold. I intend to use a work of ergodic literature to show the city through multiple lenses. The result is a piece that defines (and perhaps defies) the factual history of Flin Flon alongside the literary imaginative - an articulation of the undefinable threshold between. Fantasy and science fiction is used as a tool to address and abstract contentious issues, ideas and provocations.

The final result is a book of ergodic literature that at contains a speculative anthology of Flin Flon. It is a two volume set, each one looks and reflects at and on Flin Flon through a different lens. They intend to capture the wonderful and profound absurdities of the extraction industry and this terrain. Defined by evidence and stories, the thesis suggests a conceptual reconstruction of the city and the cultures and values that are embedded within it.

Chapter 2: Themes



Slag Sample from an
Abandoned Mine Site

The Anthropocene

The Anthropocene is a term used to explain the phenomena of our current era, where human activity on Earth has profoundly transformed the environment. It is a geological epoch closely tied to political, economic and social structures that enable the dispossession of Indigenous peoples, flora and fauna.¹ It is a period that couples both science and the humanities, in which land ownership, boundaries and trade collide with new technology.

In this age, changes within geological strata are visible as layers of manufactured waste (technofossils) becoming embedded in the natural environments, providing evidence of technology's impact.

There are three stages of “acceleration” when defining the Anthropocene in North America. The first is 1610; the beginning of colonialism into

¹ Davis and Todd, “On the Importance of a Date, or Decolonizing the Anthropocene”.



Draining Flin
Flon Lake

the Americas. During this time, the ecosystems of both Europe and the Americas were altered following the exchange of flora and fauna between the continents. Additionally, a drop in CO² levels detected in the strata coincide with the genocide of 48-55 million indigenous peoples between 1492 and 1650.²

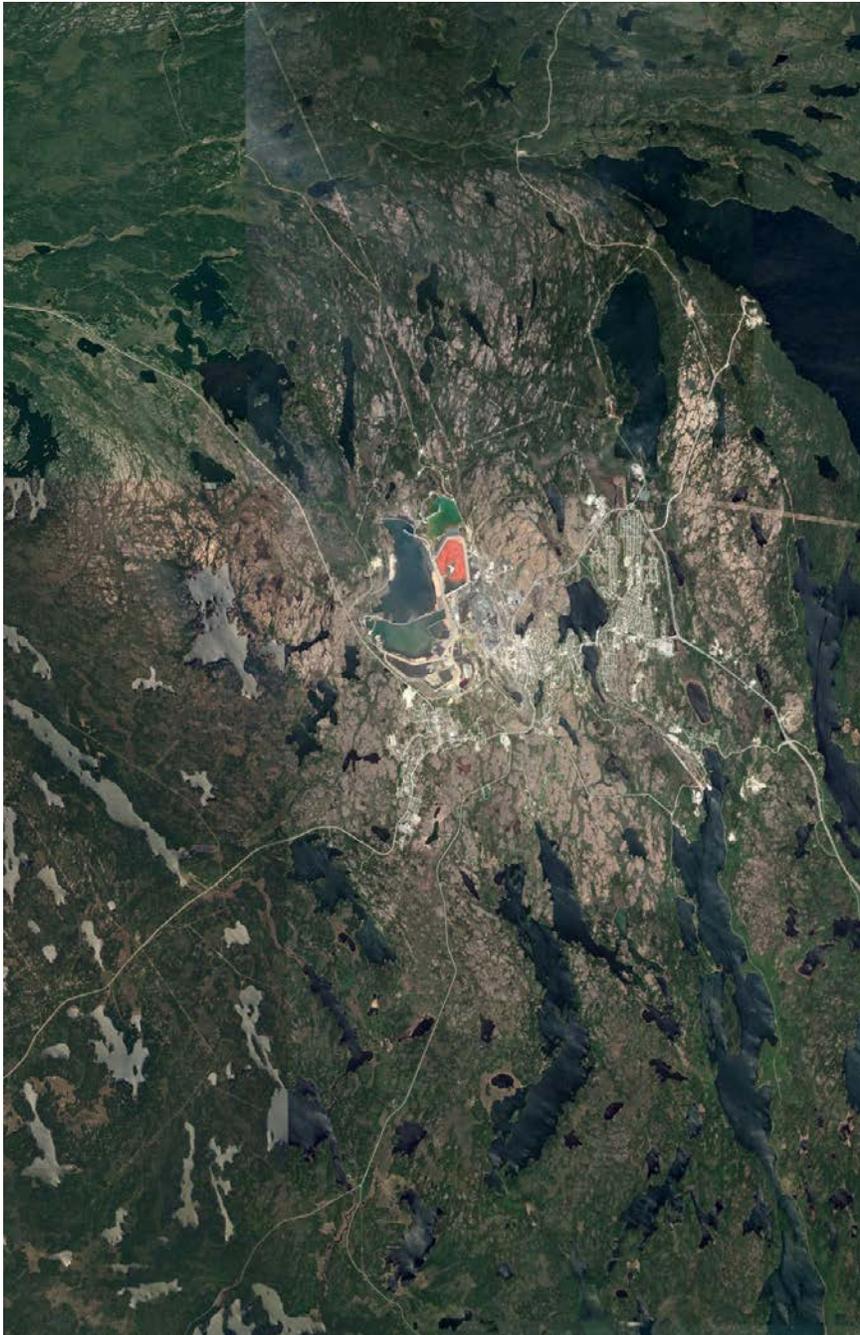
The second stage of the Anthropocene spans between the Industrial Revolution to 1945, where initial industrialization caused atmospheric CO² to rise beyond levels recorded in the Holocene Era. Following this, the Great Acceleration spans from 1945 to the present day, representing a period of an accelerated and rapid “shift in the human-environment relationship,”³ a period of time known for the production of radionuclides, plutonium, concrete and plastics.⁴

Resource extraction industries display the raw power and force of human technology through the rate and scale at which materials are extracted from the earth, the size and capabilities of machinery used, and the massive scale of geological intervention. Decontextualized from their impacts on the environment, economy and societal structures, these processes are unsettling, awe-inspiring and sublime.

² Ibid.

³ Angus, Ian. *Facing the Anthropocene: Fossil Capitalism and the Crisis of the Earth System*. (New York: Monthly Review Press, 2016)

⁴ Ibid.



Scorched Vegetation
around Flin Flon

[sub]Nature

If the supernatural is a world of miracles, a religious world above nature, and the natural is the world in which human society is located, then the subnatural is the reality in which we barely exist in the state that we currently conceive ourselves, both socially or biologically. It is that zone that is most fearsome, because it describes the limit in which contemporary life might be staged.¹

In the Anthropocene, society cannot escape human-made environments or influence. Culturally, our current categorization and understanding of nature and ecology only consider pristine wilderness; elements which humans have had no hand in cultivating and taming. However, nature has continued to react and evolve to conditions established by human technology and activity resulting in corrupted and subnatural ecologies.²

Our definitions of nature and our relationships to it must also evolve as nature has been augmented, eg. through cosmetic surgery, gene manipulation, modified crops, and selectively bred animals. The position that technology is in opposition to nature is problematic to the framework of current life, as nature has already surpassed a pure and uncorrupted existence. This reality encourages a radical redefinition for the idea of nature and a newly defined relationship with subnatures.³

David Gissen argues that *subnatures* are a key aspect to modern life, and historically more heavily experienced by blue-collar workers and those of lower socio-economic class. Gissen questions how to harness “denigrated forms of nature”,⁴ categorizing them as: Primitive (mud, dankness), Filthy (smoke, dust, exhaust), Fearsome (gas, debris), and Uncontrollable (weeds, insects, pigeons).

1 Gissen, David. *Subnature: Architecture's Other Environments*. (New York: Princeton Architectural Press, 2009.)

2 Liam Young and Geoff Manaugh, “Interview with Liam Young,” in *Landscape Futures: Instruments, Devices and Architectural Inventions* (Barcelona, New York, NY: Actar Publishers, 2013), 118.

3 Ibid.

4 Gissen, *Subnature: Architecture's Other Environments*.

Zinc Tailings
in Flin Flon



Pit Pony in a Mine



Colonial Infrastructure + Extraction

The Dominion of Canada was established and developed by colonial frontier ideologies. Throughout its history, it has redefined its borders and territories to enable the extraction of natural resources for capital gain.¹ Beginning with the fur trade, colonialists explored regions unknown to them in order to cultivate the isolated frontier and to seek its wealth and resources. In Canada, this was led by The Governor and Company of Adventurers of England that were trading into Hudson Bay.

Initially a province of only 160 km², Manitoba expanded northward in 1912 to its present boundaries at the 60th parallel, and the coast of Hudson Bay and Port Nelson.² The opening up of Manitoba's north provided unclaimed resources available for extraction, and southerners viewed this new land as wild and untravelled. The 1920 novel, *The Lobstick Trail*, captured the ideals of this frontier culture of prospectors and adventurers. Located in what the characters consider the last point of civilization, The Pas, they travel northward via dog sled to a prospectors camp, soon to be known as Flin Flon.

“Don't you know that for two hundred and fifty years Canadians have been puddling along on the southern rim of a country as rich as any country in the world and have handed the rest of it over to a company of moneyed Englishmen who never saw Canada and don't give a tinker's dam if they do or not. But we've got to pull in our belts, Dagsie. God Almighty's going to give Canada the next hundred years to make good in, an' she's got to make good by herself or forget about it and let someone else handle the deal. We've got enough fish in the lakes north of Saskatchewan to feed the rest of the world week-days and Fridays.

1 Bélanger, Pierre. *Extraction Empire: Undermining the Systems, States, & Scales of Canada's Global Resource Empire*. Cambridge, MA: MIT Press, 2018.

2 Robert Robson, “Manitoba's Resource Towns: The Twentieth Century Frontier,” *Manitoba History* 16 (Autumn 1988): , accessed January 18, 2019, doi:http://www.mhs.mb.ca/docs/mb_history/16/resourcetowns.shtml.

There's more good salmon in the Hudson Bay than they ever dreamed of in Alaska or British Columbia. There's enough water power here in one province to turn every wheel, light every house and every street in every village, town and city from Halifax to Vancouver. There's timber and stone and minerals - why, God bless my soul, it isn't a question of whether the stuff's here or not. It's a question of whether we're packing the kind of stuff here" - hand he placed his hand over his belt - "that'll handle the deal. That's where we stand!"³

Following the opening up of Manitoba's North, Flin Flon Mine is staked and claimed in 1915. The resource towns of Northern Manitoba are also established at this time: Bisset, Leaf Rapids, Lynn Lake, Pinawa, Pine Fall, Sherridon, Snow Lake and Thompson.⁴

Extraction is inherently political, incentivising the infrastructure necessary for resource claims and removal. It engages with cartography and land ownership as a means of technology, producing lines and borders in order to lay claims to the commons.⁵ Extraction relies on the categorization and separation of environments which are inherently linked; like the separation of surface and subsurface rights, or the separate treatment of land, water, flora and fauna.⁶ The framework for resource extraction in Canada has also been developed through unequal negotiations during land and mining claims. This has led to the continuous exploitation of indigenous peoples and their resources, while large disparities grow between indigenous and non-indigenous communities.⁷

3 Durkin, *The Lobstick Trail*, 20-21.

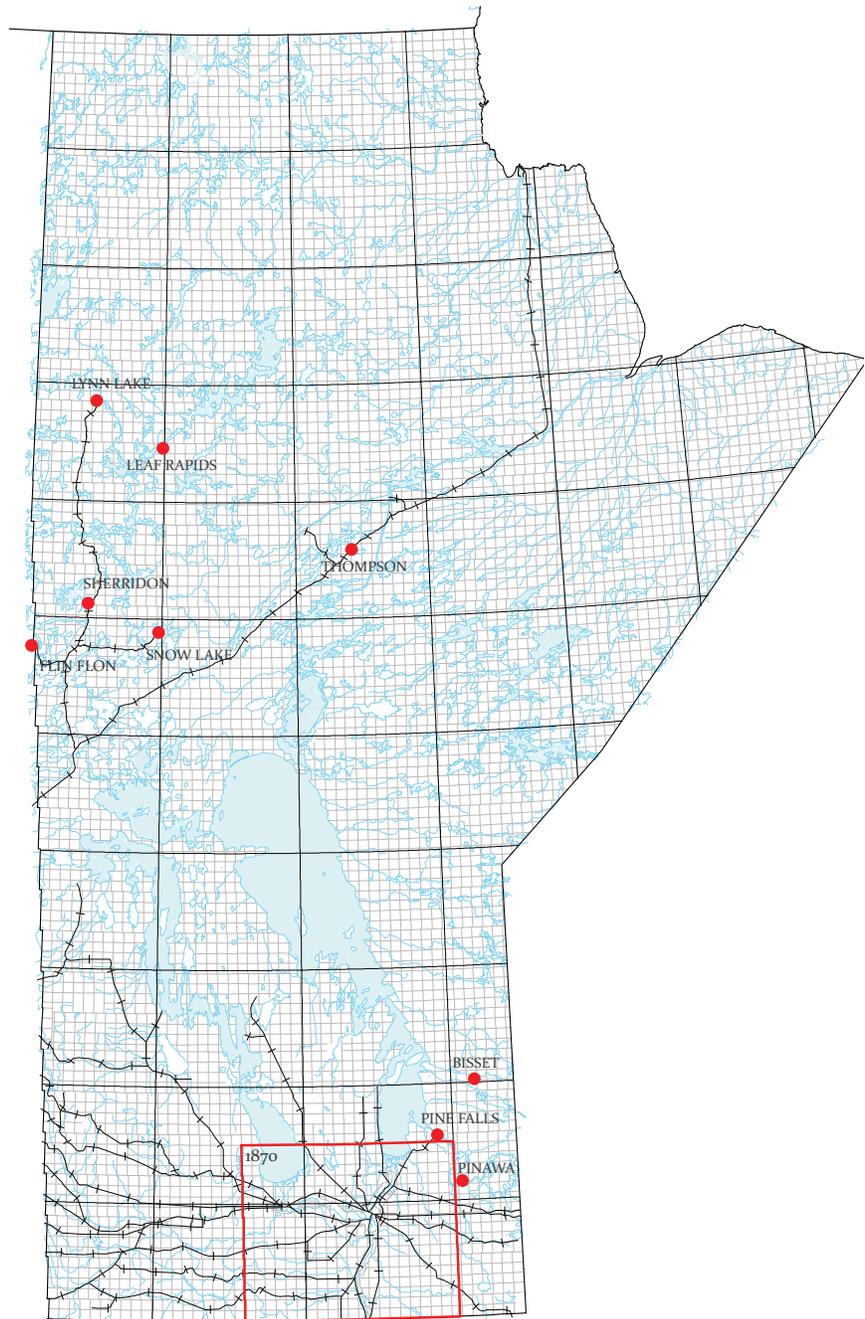
4 Robson, "Manitoba's Resource Towns: The Twentieth Century Frontier," *Manitoba History* 16.

5 Bélanger, *Extraction Empire: Undermining the Systems, States, & Scales of Canada's Global Resource Empire*.

6 Ibid, 6,7.

7 Hall, Rebecca. "Diamond Mining in Canada's Northwest Territories: A Colonial Continuity." *Antipode* 45, no. 2 (2012): 376-93. doi:10.1111/j.1467-8330.2012.01012.x.

Manitoba's 1870
Border vs. 1912 Border
and Resource Towns



Links between indigenous peoples and the procurement of their land for extraction are evident through the history of government divisions, restructuring, and re-branding. Between the years of 1755 and present day, the government branches of Indigenous and Northern Affairs Canada, and Natural Resources Canada have consistently re-named their roles and responsibilities when it comes to the ownership and extraction of natural resources. Pierre Belanger highlights this renegotiation of ownership on the chart Natural Resources vs. Indigenous Affairs on page 16.⁸

Extraction is the industrial removal of natural resources for the purposes of processing and refining for capital gain; logging, mining, water harvesting, and drilling for petroleum. The removal and/or movement of resources can have adverse effects on local ecologies and they are often irreversible, depositing harmful pollutants in soils and waters, changing native animal migratory patterns and precipitating habitat collapse.

Every aspect of modern/urban life is affected by extraction. The fetishization of frontierism continues as society continues to exploit new territories in the name of accelerated development.⁹

8 X-Team, "Confronting Empire," in *Extraction Empire: Undermining the Systems, States, & Scales of Canada's Global Resource Empire* (Cambridge, MA: MIT Press, 2018). 316, 317.

9 Peter Mörtenböck and Helge Mooshammer, "Urban Frontiers in the Global Struggle for Capital Gains," *Finance and Society* 4, no. 1 (2018): , doi:10.2218/finsoc.v4i1.2743.

Natural Resources vs. Indigenous Affairs

Time	Department	
		1755: British Indian Department (established as a branch of the military)
		1830: British Indian Department (becomes independent from the military)
	1842 Geological Survey of Canada	
		1860: Commissioner of Indian Affairs (Crown Lands Department responsible for Indian Affairs)
		1867: Superintendent General of Indian Affairs (position established following Confederation)
		1880: Minister of Interior (holds position of Superintendent General of Indian Affairs)
	1907 Department of Mines (established under Wilfred Laurier)	
	1936 Department of Mines and Resources (includes: Department of Indian Affairs, Department of the Interior.)	1936: Minister of Mines & Resources (becomes responsible for Indian Affairs)
	1950 Department of Mines & Technical Surveys (includes: Department of Reconstruction and Supply)	1950: Minister of Citizenship & Immigration (becomes responsible for Indian Affairs)
	1953: Department of Northern Affairs and National Resources (formerly: Department of Resources and Development)	
	1966: Department of Energy, Mines, Resources & Forestry	1966: Department of Indian Affairs and Northern Development
	1995: Department of Natural Resources (includes: Department of Energy, Mines & Resources, Department of Forestry).	
	2001: Natural Resources Canada	
		2011: Aboriginal Affairs & Northern Development Canada
		2015: Indigenous and Northern Affairs Canada

Technofossils + Technobeasts

“Technofossil” is a term used to describe manufactured waste preserved within the Earth’s strata- a marking of the Anthropocene. Containing inorganic material, technofossils will remain as traces of technology, industry and commerce for millions of years. Similar to rocks in geology, the composition of technofossils reveal the methods of their creation. Technofossils related to the mining industry, for example, include core samples, slag and machinery.

Core samples are a cylindrical section of earth, typically drilled with a diamond bit and are used to determine the mineral content of a geological area. Drilling core samples is common practice during the exploratory and mining phases of extraction. When a core is found to have valuable minerals, it may be split into additional segments for further inspection. Resource Development Canada has five drillcore libraries, where 260,000 meters of precambrian core samples are housed in facilities (located in Flin Flon, The Pas, Winnipeg, and Thompson) like rare species.¹

Slag is a byproduct from refining raw ore in order to extract valuable metals. Ore is pulverized, then exposed to high temperatures in a furnace, reducing the ore to liquid form. Metals float to the top in floatation cells, and impurities (slag) are separated out. In Flin Flon, slag is disposed of in two ways; as a structural agent in the form of cementitious paste in underground mines, or as backfill in slag heaps. If it is not being used as a paste, it is dumped into a slag heap while still molten. After cooling, the heaps are broken apart and dispersed with excavators. The “rocks” that form are initially homogeneous in colour, with visible aeration created from the heating process. Slag rocks continue to oxidise in their environment. Beginning as black rocks, their exteriors slowly turn into reds, then yellows. Slag heaps are prevalent in the Amisk region around Flin Flon.

¹ “Manitoba Drillcore Libraries,” Province of Manitoba, , accessed January 19, 2019, <https://www.manitoba.ca/iem/geo/drillcore/index.html#contact>.

Churn Drills and
Electric Marion Shovel
in Open Pit, Flin Flon



Open Pit Mine in Flin
Flon, (the Techno
Graveyard)



Machinery in mining operations are commonly left underground due to the exorbitant costs of removal. In Flin Flon, the original open pit mine was used as a repository for broken down or obsolete machinery. This massive dump is referred to as the Techno Graveyard throughout the rest of this document. Recently, the Techno Graveyard was filled over with a layer of slag.

The gathering of **technofossils** on site was a means of providing physical representations of processes that are unique to the mining industry. During the initial stages of this research both slag and core samples were collected as pieces of evidence of the technological processes that occurred in Flin Flon.



Dumping Slag from
the Smelter

Chapter 3: *The Sunless City*

Slag Sample from an
Abandoned Mine Site



Synopsis

The text of *The Sunless City* by J.E. Preston Muddock was copied, cut and rearranged to retell the story from a contemporary perspective. The result is an edition showcasing the journey of Flintabbatey Flonatin while privileging racialized and gendered narratives present in the original text. The worlds that Flintabbatey Flonatin experiences are represented by a clock, and begin at 12:00.

The Map of
Flintabbatey Flonatin's
Adventure



12:00 The Infernal Regions

The short and balding grocer, Flintabbatey Flonatin, attends a meeting in New York with esteemed scientists. They are trying to determine the outlet of Lake Avernus, and Flintabbatey Flonatin announces his hypothesis. He believes that the lake flows into the centre of the hollow earth, and the interior to be inhabited by “savages”, which he will clothe and civilize. Funded by the Society for the Exploration of Unknown Regions, he has a 34’-6” submarine built and modelled after the *Esox Lucius* pike.

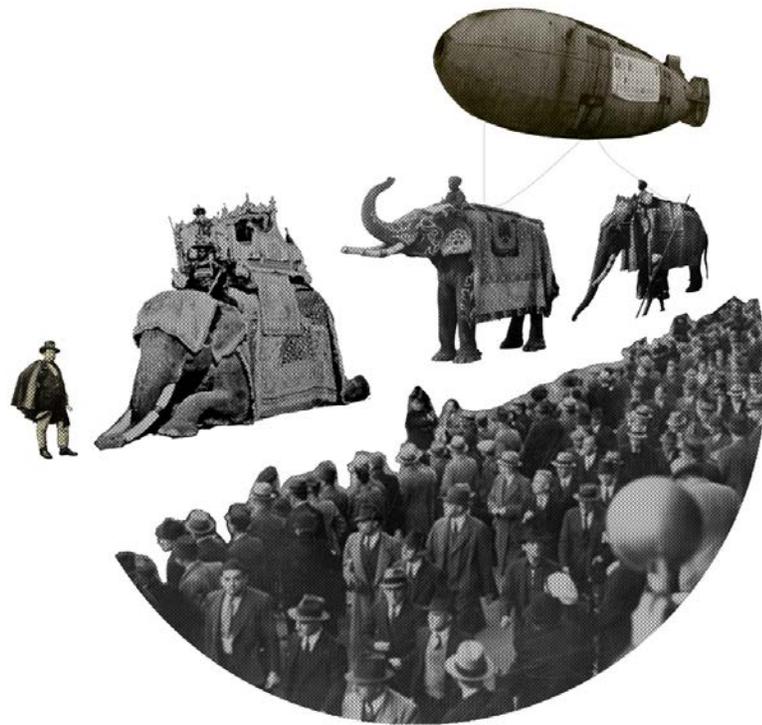


“The Vessel”

On the day of Flintabbatey Flonatin's departure, there is a parade. He is carried in a howdah on a white elephant, followed by another elephant carrying his vessel. Behind him is a parade of "lusus naturae"¹ procured by a local museum. His vessel is placed in Lake Avernus by "a party of Indians and mules".²

1 Muddock, 21. Translates to "freaks of nature".

2 Ibid, 22.



"The Parade"

The vessel plunges into the darkness of Lake Avernus. After some time, it swirls down into a giant drain.



“The Plunge”

1:00 Petrified World

Flintabbatey Flonatin surfaces the vessel as it travels down a subterranean river. He encounters a world where trees and vines used to thrive, but have been petrified into white stone.

2:00 The Hall of Jewels

It is hot. He wakes up due to the increased temperature. He opens the hatch of his vessel and is astonished by the prismatic glory of rich rubies and emeralds encrusted into the ceiling above. He follows a glow ahead of him.



“The Hall of Jewels”

3:00 Pluto's Reception Hall

Flintabbatey Flonatin secures his vessel to a column and walks towards the glow. Evidence of a great fire is scorched onto the stone ruins around him, which display evidence of every architectural style throughout history. He explores with two bottles of champagne in hand, and leaves a note for anyone who follows in his footsteps. He peers down a chasm and sees the belly of a volcano, providing light to the hall. After a nap, he returns to his vessel, which is no longer there.



“Pluto’s Reception
Hall”

4:00 Lost

Flintabbatey Flonatin is lost in darkness without his submarine, and has no way to survive without it. His connection, however, to this Underworld is visceral and he is consumed in its harsh darkness. He longs to return to the Surface World. He eventually rediscovers his vessel, which has now been moored between two columns. In an effort to get back in, he loses his only set of clothes. He continues his journey with a ruffled victorian dress shirt. He had intended to wear it for formal Underworld occasions, like balls and banquets.



“Lost”

5:00 The Waters of Fire

He witnesses luminous blue bubbles rising through the water his submarine sails through. He surfaces and finds the bubbles were a flammable gas, immediately burning at the water's surface. The ceiling of the cave is engulfed in a blanket of blue flames. He tests the air quality with a pigeon and it suffocates.

6:00 Orb of Fire and Water

He comes to an orb of fire and water. The turbulence of the event causes him to pass out.



“The Waters of Fire”

7:00 The Sea of Echoes

He christens this space with a champagne bottle, naming it the property of America. Here, he comes across a giant turtle - bigger than his vessel. Being a good colonial sportsman, he tries to shoot it, intending to cut it up and place it in his submarine. Because the sky is not open - but enclosed - the shot of his gun creates a torrential electrical storm.



“The Sea of Echos”

7:30 The Gateway

He exits The Sea of Echoes through a skinny crevice between two towering cliffs. He acknowledges this as the Gateway to the Underworld.

Mr. Flonatin was now determined to continue his journey, and after a very sumptuous meal, he stepped outside on to the little platform over the tail, which formed the deck. He found that the temperature of the atmosphere was not at all pleasant to him in the absence of proper clothing.

Having dressed himself in a spare red blanket, he cast off the moorings, fixed a flag at the mast head, and was soon speeding along at the rate of fourteen knots an hour.

For some distance Flin kept aloft the coast. There was no change at all in the general features of the place. The same gorges, the same roaring waterfalls, the same rocks, and the same sterility. A few trees or shrubs or even grass would have given the region the appearance of a veritable paradise, but after the storm Flin had witnessed he had no difficulty in accounting for the utter absence of vegetable life. The very hardest of plants or trees must have been withered by the electric fluid which permeated every depth of the sea.

On either side the burnt, black rocks rose up like perpendicular walls, not more than twenty-four yards apart. Far above their tops were lost in the electric clouds, which sent down a stream of red light, the effect of which can scarcely be described. But it seemed as if the rocks were dripping with blood, and that the vessel itself was moving through a sea of blood. Between these walls the tide rushed furiously, and the fish was borne on at a tremendous pace, the voyager feeling that new wonders were about to burst upon him.

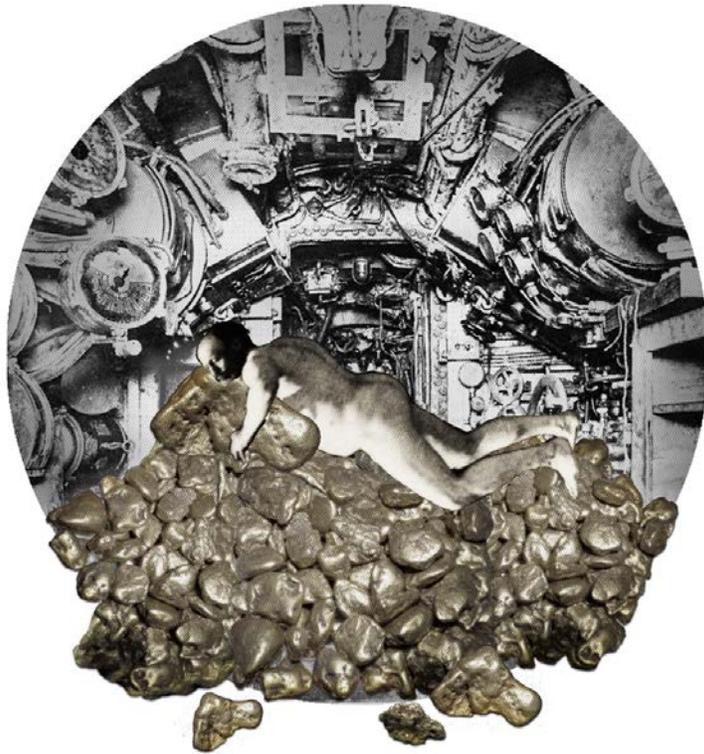
Presently he found that he was approaching the base of what appeared a huge mountain, and as he drew near he saw a most tremendous opening, into which the river rushed. This opening was like the entrance to some of the mammoth caves of worship that are found in many parts of India and China. It was, in fact, a kind of colossal doorway, almost square in shape. He felt that this was the portal to another region.

He got his electric lamps in order, and, having seen everything snug in the vessel, he waited in anxious suspense for the next revelation. In a few minutes the fish rushed into the tunnel, where all was profound darkness save for the gleam from the lamps.

“The Gateway”

9:00 The Valley of Gold

Flintabbatey Flonatin wakes up and find himself in a valley of gold. Overcome by an ugly greed, he becomes irrational and violent. His face contorts as he fills his pockets and his submarine with as much gold as it can carry - so much that his vessel can barely surface. He desires greatly to return to the Surface World with his new-found riches.

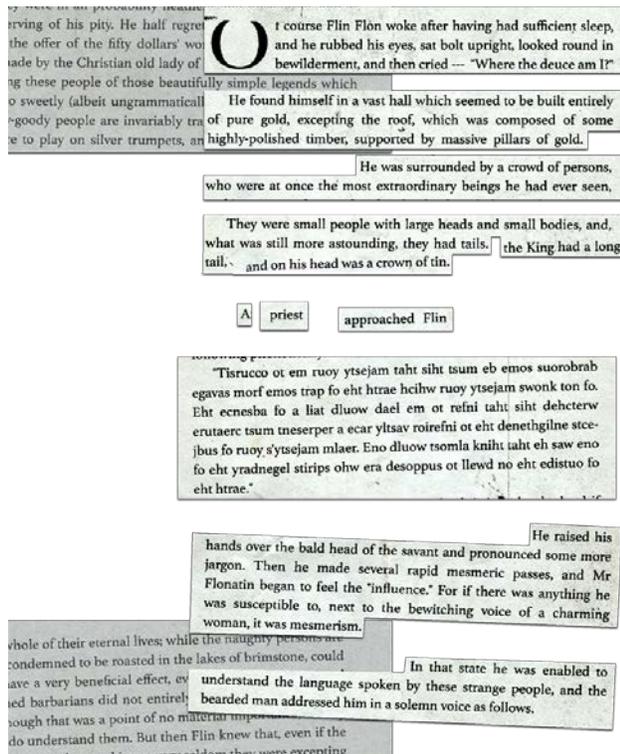


“The Valley of Gold”

10:00 Esnsenon

After sleeping in a nest of gold, He again wakes up in a new place without his submarine. He is in “Esnsenon”, a place where everyone speaks in backwards English. The beings are “pre-human” with tails, and view him as a lesser species. They laugh at his collection of useless metals. They want to exhibit him as a zoo animal. He can’t understand this, being a dignified man from America.

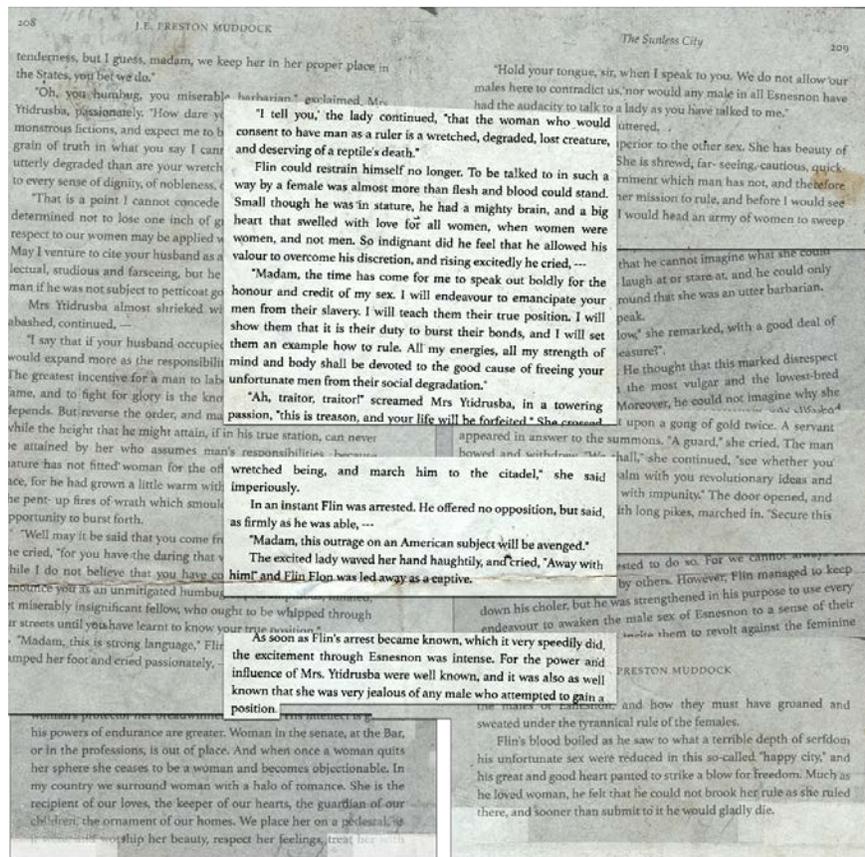
Here, the streets are paved with gold, and tin is the most valuable substance. Women govern the land and he again longs to be back on the surface, where society made sense. He views the men as weak, having allowed themselves to be ruled by women.



Detail of “Esnsenon”

He meets the Princess Yombot, who makes advances toward Flintabbatey Flonatin. He is horrified by the forward customs of women here.

He attends a council for mens protection. In a conversation with Mrs. Ytidrusba, he defends the rights of males. He is arrested and charged with treasonous and seditious language, attempts to interfere with the peace of the Esnesnon, and undignified and insulting language to one of the most esteemed ladies of the land. He goes on trial. Despite being prosecuted and judged by contemptuous women, he is found "Not Guilty".



Detail of "Esnesnon"

11:00 Escape to the Surface World

After convincing the Princess Yobmot that she would be much better suited as a doting wife on his surface world, he plans a military coup for the men to overthrow the women, and to gain their rightful place of power. Simultaneously, he is planning his escape.

Flintabbatey Flonatin takes the princess with him and climbs up an extinct volcano to return to surface earth. Princess Yombot dies. On the surface, nobody believes that he is who he says he is, and he lives out the rest of his life in isolation.



“Escape”

Artifacts of *The Sunless City*:

1. Illustrated
Reproduction of *The Sunless City*
2. *The Sunless City* by
J.E. Preston Muddock
3. The Vessel of
Flintabbatey Flonatin
4. Champagne Bottle
discovered in Pluto's
Reception Hall
5. Flin Flon Public
Library Tote with
Flintabbatey Flonatin
6. Map of the world
experienced by
Flintabbatey Flonatin
7. Newspaper Clipping
from Esnesnon,
describing the arrival
of a strange vessel.



Chapter 4: Flin Flon



Slag Sample from an
Abandoned Mine Site



Effects of Acid Rain
Near 777 Mine
Smelter

Short Story #1: Flin Flon

He appeared on the shore at dusk. Through the thickly veiled forest he made his way, even though stars could no longer guide him. Barely paddling, he let the meandering veins of water wind him through sharp cleavages of red rock. This was the place.

Seated on a rocky outcropping, he held a worn leather book tight against his chest. Inside were the words of his God, and the promises of paradise. This sacred text foretold a lost city beneath a lake, with gold-lined streets and beautiful women.

The bed of a lake is not a sheet you can lift.

Chiselled into the blood red landscape were white markers, pure as snow. Surveying the outcropping, the man used his instruments to strike the markers, revealing a metallic glint in the sun. He spent days striking the white rock, muttering the name of his God under his breath,

“Flintabbatey Fucking Flonatin.”

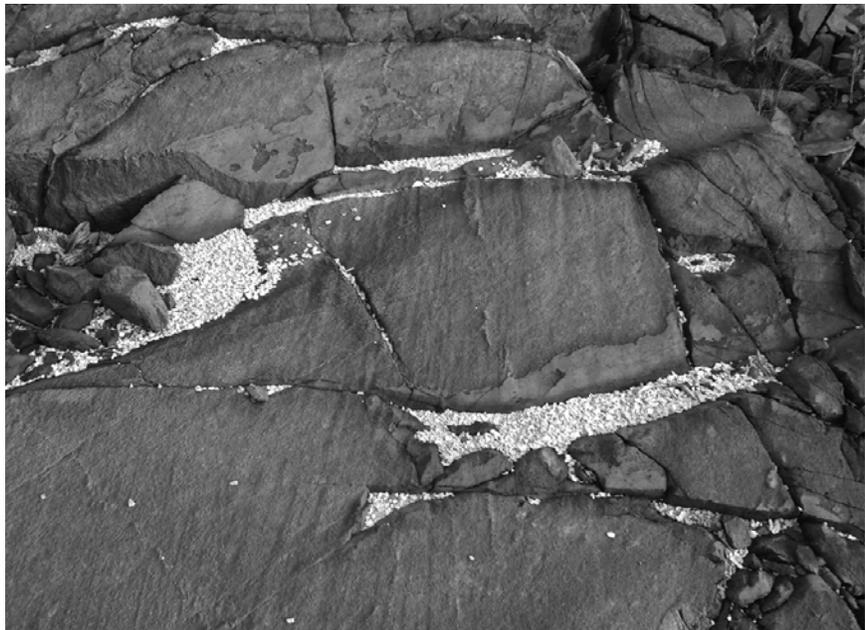
The promises of an underground city of gold and beautiful women rang far and wide, drawing young, eager men to come dig. They propped up their own earthen city atop the red rock. They made stilts for their houses, and families to fill those.

Digging deeper and deeper, a red haze obscured the horizon.

Decades went by, yet the sacred paradise eluded the men. Precious metals teased them further into the red rock, leading them down echoing dead ends. Red dust filled their lungs, and children filled the cemetery. The men continued to gnash at the rock using metal beasts, tunneling for hundreds of miles beneath the lake. They cut down the forest to fuel their smelters, and the smoke made a rain so sour, no forest would ever grow again.

And now the children of their children seek this city of gold, blasting labyrinths of caves beneath their houses on stilts. And their children hike up to the smelter with buckets of chalky gravel, to spread lime on the sour red rock with their little hands.

Flin Flon. Fucking Flin Flon.



Crushed Limestone on
Landscape to Promote
New Growth

Modern History

The development of Flin Flon was stimulated by the 1912 expansion of Manitoba's borders. This northern expansion into the Canadian Shield was made possible by developing and expanding railways, hydroelectric dams, and resource extraction industries.¹

Over the next fifteen years, many other mines nearby would be claimed and staked: Osborne Lake Mine, Mandy Mine, Schist Lake Mine, North Star Mine, Don Jon Mine, Gurney Gold Mine, and the Cuprus Mine. The ore at Mandy Mine was rich enough for ore to be transported by barge, then horse and carriage to Sturgeon Landing.² Production at Flin Flon Mine, however, would remain slow until 1928, when the railway extended northward to the mine.³

Flin Flon was initially a frontier town, with unplanned dirt roadways. Planks of wood were placed in pathways over the ground, to prevent pedestrians from sinking into the mud. Log cabins and tents were raised close to the mining site.

In 1926, the *Complex Ores Recoveries Company* secured the option to the property; this created a partnership with two other mining firms and consolidated 153 mining claims on nearly 6,000 acres of land under the development umbrella of the Hudson Bay Mining & Smelting Company (HBM&S).

In 1928, the Manitoba Government gained the authority to oversee community development.⁴ By 1930, the mine, smelter, hydroelectric dam, and railway were in full operation. During the Great Depression, the mine

1 Robson, "Manitoba's Resource Towns: The Twentieth Century Frontier," *Manitoba History* 16
2 Sproxtton, "Novels That Named a City: Fictional Pretexts of Flin Flon," ed. Robert Alexander Wardlaugh, in *Toward Defining the Prairies: Region, Culture, and History*, 140.

3 Robson, "Manitoba's Resource Towns: The Twentieth Century Frontier," *Manitoba History* 16

4 Ibid.

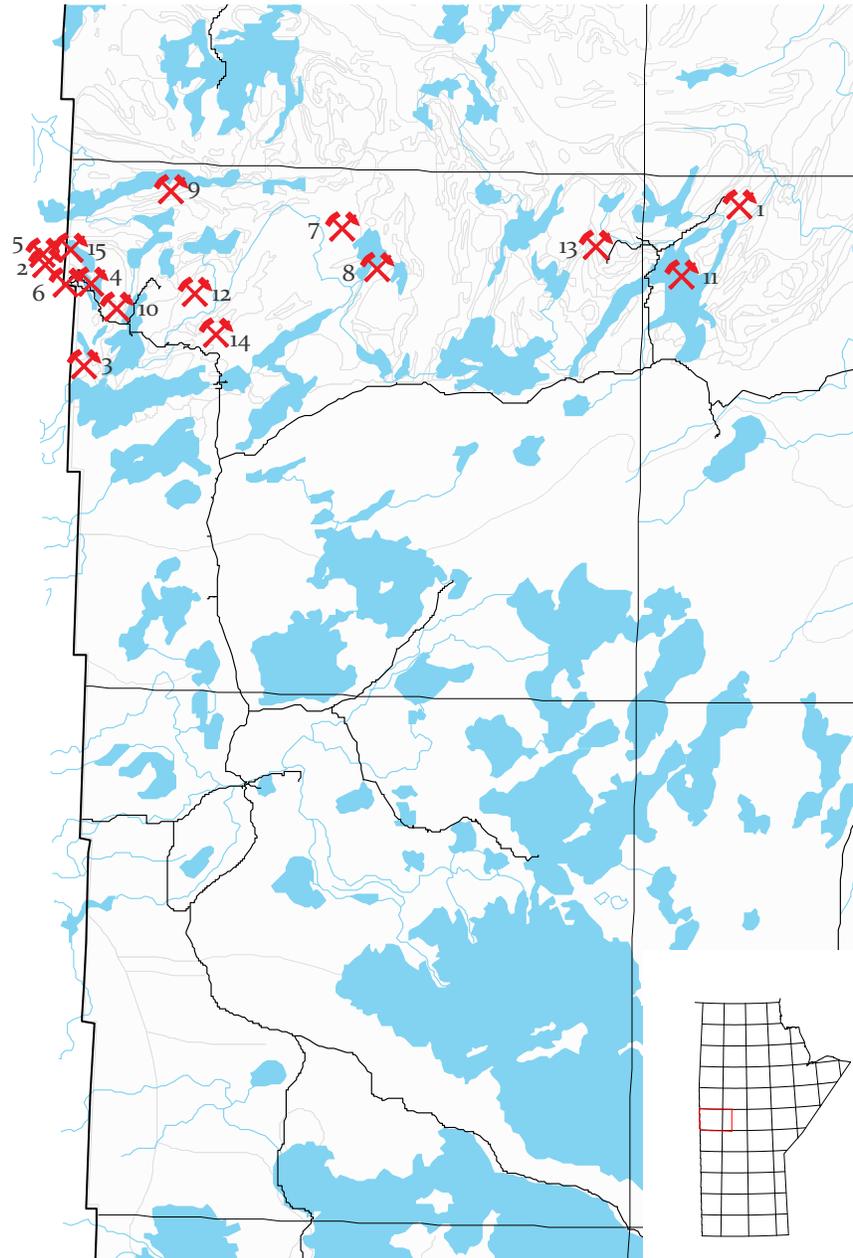
was one of few stable economic opportunities, and encouraged waves of immigration into the region.

Throughout the decades, the region remained rich in high grade ore, becoming home to a population of 14,000 in 1955. During this period of prosperity, the city invested in new ideas and infrastructure. In 1970, a new smoke stack was built to combat the poor air quality in the city. At 825 feet, it was one of the largest freestanding structures in Canada. At present day, it is capped and remains a beacon of the city's industrial past.⁵

⁵ Jonathon Naylor, "40 Years On, Stack Remains an Icon of North," *Flin Flon Reminder*, August 22, 2014, , accessed January 4, 2019, <https://www.there minder.ca/news/local-news/40-years-on-stack-remains-an-icon-of-north-1.1724402>.



Flin Flon's
Smoke Stack



- 1 Osborne Mine
- 2 Flin Flon Mine
- 3 Mandy Mine
- 4 Schist Lake Mine
- 5 North Main Mine
- 6 South Main Mine
- 7 North Main Mine
- 8 Don Jon Mine
- 9 Gurney Gold Mine
- 10 Cuprus Mine
- 11 Stall Lake Mine
- 12 Trout Lake Mine
- 13 Lalor Mine
- 14 Centennial Mine
- 15 777 Mine

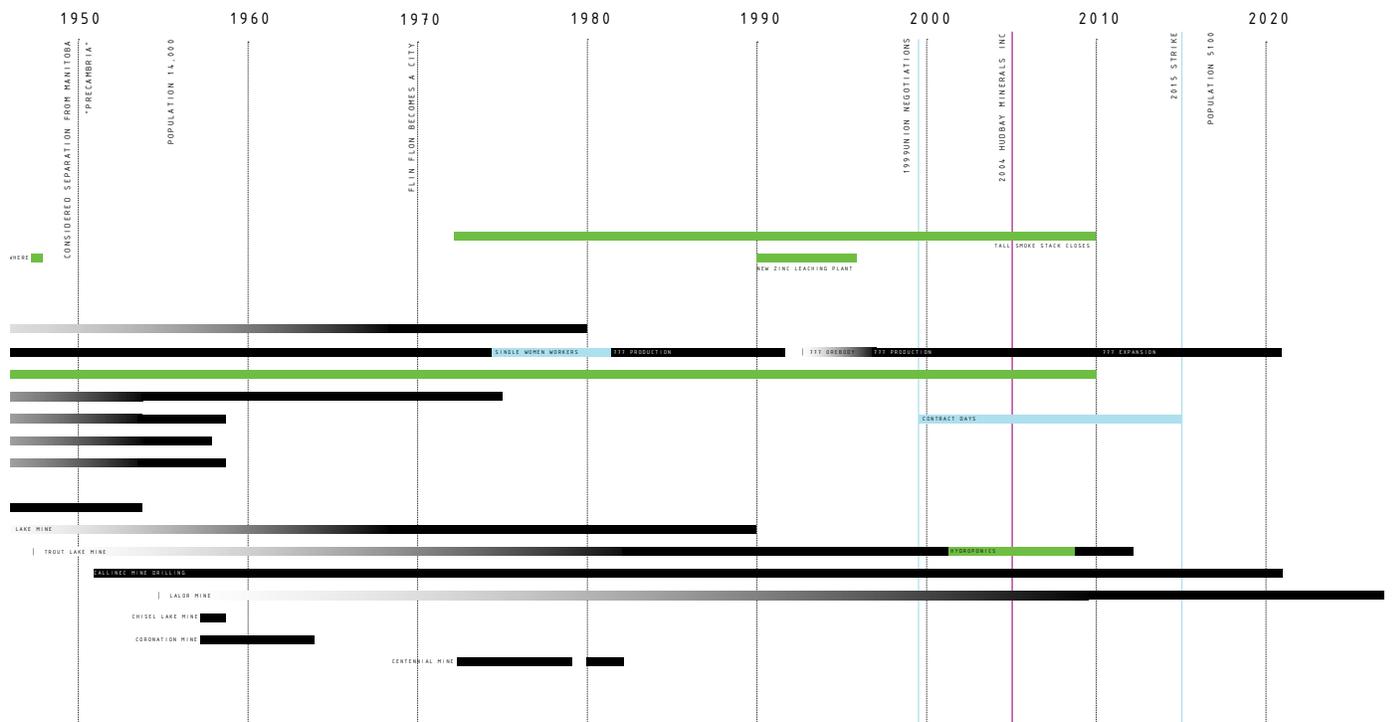
Manitoba Map of
Nearby Mining Claims

Timeline Overview

- 1670 - The Governor and Company of Adventurers trading into Hudson's Bay incorporated
- 1842 - Geological Survey of Canada
- 1875 - Treaty 5 Signed
- 1905 - *The Sunless City* is published
- 1910 - Discovery of gold in Amisk Region
- 1912 - Manitoba's borders are extended to the 60th parallel
- 1914 - Osborne Lake Mine staked
- 1915 - Flin Flon Mine claimed
- 1915 - Mandy Mine deposit discovered
- 1915 - Schist Lake Mine staked
- 1916 - Mandy Mine becomes Manitoba's first copper producing mine
- 1919 - North Star Mine claimed
- 1919 - Don Jon Mine claimed
- 1919 - Gurney Gold Mine staked
- 1920 - Mandy Mine closes after the richest ore is depleted
- 1922 - *The Lobstick Trail* is published
- 1926 - Cuprus Mine discovered
- 1928 - Railway reaches Flin Flon Mine
- 1928 - Hydroelectric Dam constructed at Island Falls
- 1928 - Construction Begins on Flin Flon Mine
- 1928 - Mandy Mine reopens
- 1928 - Mandy Mine closes
- 1930 - Production begins at Flin Flon
- 1936 - Production begins at Gurney Gold Mine
- 1939 - Gurney Gold Mine closes
- 1943 - Mandy Mine reopens
- 1944 - Mandy Mine closes
- 1945 - Stall Lake Mine staked
- 1948 - Cuprus Mine begins production
- 1948 - Trout Lake Mine staked
- 1954 - Schist Lake Mine begins production

1954 - Cuprus Mine closes
1954 - Don Jon Ore mined through North Star Shaft
1958 - Don Jon Mine closes
1973 - Production begins at Centennial Mine
1975 - Schist Lake Mine closes
1978 - Production begins at Osborne Lake Mine
1979 - Productions stops at Centennial Mine
1980 - Production resumes at Centennial Mine
1983 - Production stops at Centennial Mine
1983 - Production ends at Osborne Lake Mine
1982 - Production Begins at Trout Lake
1992 - Flin Flon Mine Closes
1993 - 777 Ore-Body Discovered
1997 - 777 Mine development begins
2002 - Contract awarded for Prairie Plant Systems to grow medicinal marijuana in Trout Lake Mine
2007 - Lalor Mine ore body discovered
2009 - Lalor Mine development begins
2009 - Prairie Plan Systems stops marijuana production
2010 - Copper Smelter at Flin Flon Closes
2010 - 777 North expansion begins
2010 - Lalor Mine goes into full development
2012 - Production at Trout Lake Mine officially ends
2021 - 777 Mine projected closure

STAGE 2: THE GREAT ACCELERATION



Resource Town Typology

A resource town is a community whose economic base relies predominantly on resource extraction or processing industries. Physically isolated from other communities, they were developed through company initiative, where a company funded the necessary infrastructure to establish worker communities. They were often incentivised by government policies to encourage development and jobs. The working class communities of these towns rely heavily on the mining company, and follow capitalist movement as ore bodies are found, extracted, and depleted.¹

The nature of the ore discovered in a mining location determined a lot about the affiliated resource town; extraction methods, personnel required, specialties, location and layout. Mining communities were initially occupationally homogenous, as workers were employed by one company with similar salary ranges. Opportunities for social and economic mobility within the community were not common, which could cause divisions

¹ Knapp, Arthur Bernard., Vincent C. Pigott, and Eugenia W. Herbert. *Social Approaches to an Industrial Past: The Archaeology and Anthropology of Mining*. (London: Routledge, 2012.) 4.



Flin Flon Town
Establishment

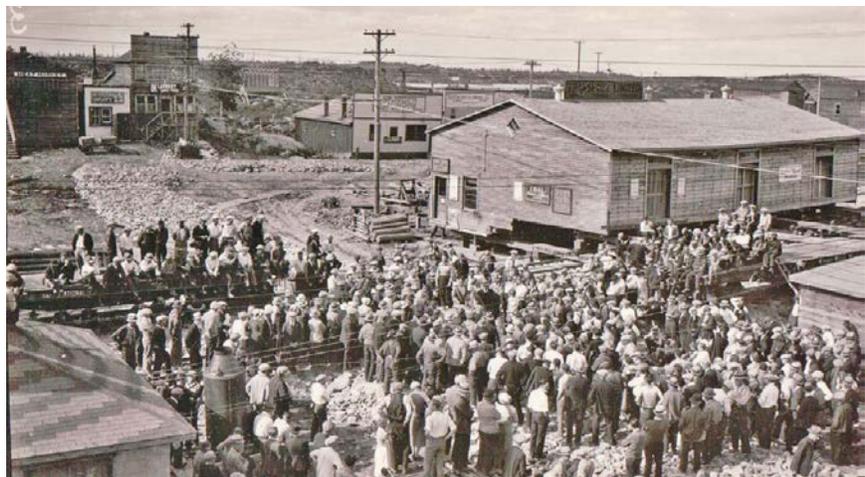
between workers and management.² Paired with dangerous work, this could lead to conflict between unions representing the workers, and the company. Miners are more prone to injury and diseases, are commonly poorly paid and housed, and exploited by their employers. In many precapitalist mining camps, miners were slaves or convicts. These conditions led to frequent strikes or revolts.³

Resource towns commonly reinforce segregated family and gender roles, as they are often reinforced in an effort to maintain the presence of families and spousal support in the town. Workers and their families are united in common work, and leisure activities in the community are often focused inward, and work remains the main topic of conversation.⁴ Isolation and a homogenous workforce creates a strong, insular community identity among workers and their families, along with a deep attachment to the land that is their livelihood.

² Ibid, 9.

³ Ibid, 4.

⁴ Ibid, 6.

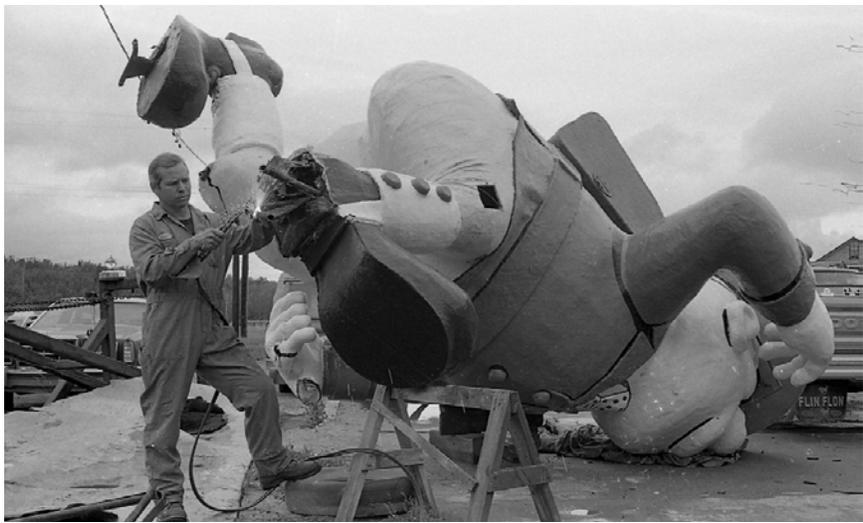


1934 Strike

Mining makes its mark on the landscape, the nature of work, on the ways of living. When it comes to an end, it can pull the ground from under people's feet in both senses of the word, in reality through dangerous land subsidence or in a transferred sense of collapse and social structures.⁵

5 Bergbau Folge Landschaft: Konferenzdokumentation = Post-mining Landscape: Conference Documentation. Berlin: Jovis, 2010.

Town Mascot "Flinty"
Being Repaired



Flin Flon Lake Bottom
Playing Fields



Gender and Family Roles

Company Towns often employed discriminatory hiring policies to encourage conventional family structures, strong communities and a permanent skilled labour force. Preferential hiring focused on men with families in order to bring women and children into the settlement to create the amenities that would help keep them there. The active role of bringing women and children to the resource town ideally created a stable basis for healthy community growth, and would lead more people to stay and more people to want to work there.^{1 2}

When the first generation of women arrived in Flin Flon, they were met with unpaved roads, small one room shacks, and no amenities. These women played a pivotal role in forming the community that Flin Flon would become, by lobbying for sidewalks, schools, hospitals and community centres.³

“There was just so much to do. There weren’t roads, just a few shops and that tiny little house. When I wasn’t doing my housework at home I was out drumming up people to build the schools and make this a good place to live.” (Generation I, b. 1897)⁴

During World War Two, HBM&S employed women for the first time, to act as replacements for the men who went to war. Those women subsequently lost their jobs as soldiers returned. The local union resisted the women’s labour movement except during times of strike when they were used to walk picket lines, operate kitchens, deliver clothing and organize other wives in support of prevailing social attitudes.

1 Luxton, Meg. *More than a Labour of Love: Three Generations of Women’s Work in the Home*. (Toronto, ON: Women’s Press Domestic Labour Series, 1980) 26.

2 Laurie Mercier, “Borders, Gender and Labour: Canadian and U.S. Mining Towns during the Cold War Era,” in *Company Towns in the Americas: Landscape, Power, And Working-Class Communities*, ed. Oliver J. Dinius and Angela Vergara (Athens, GA: University of Georgia Press, 2011), 159.

3 Luxton, *More than a Labour of Love: Three Generations of Women’s Work in the Home*, 31.

4 Ibid.

HBM&S exclusively only hired men until the 1970's, when the United Steelworkers union officially denounced gender discrimination in hiring practices. Following this, single women were allowed to work in the mine in surface positions only.⁵ As automation and technology advanced in the 1980's and 1990's, workers with the least amount of seniority were laid off as there was less workforce needed. This resulted in mainly women being laid off.⁶

Without a large variety of jobs outside of the mining industry, unemployment among women is high in Flin Flon. Due to still existing discriminatory hiring practices, married women have been excluded from over half of the available jobs, as well as the highest paying jobs. Available employment for women has remained in clerical, retail or service positions where the salaries are traditionally poor.⁷

5 Mercier, "Borders, Gender and Labour: Canadian and U.S. Mining Towns during the Cold War Era," in *Company Towns in the Americas: Landscape, Power, And Working-Class Communities*, 170.

6 Ibid.

7 Luxton, *More than a Labour of Love: Three Generations of Women's Work in the Home*. 176



'Zinc Plant Girls' at the Flin Flon Mine During WW2

Because there were few opportunities for employment in the community, women often relied on marriage as a means of economic necessity and support. Households are typically single income, and the men all generally work for the same company making relatively the same amount of money. Women are seen in roles of unpaid domestic labour.⁸

⁸ Ibid, 25.

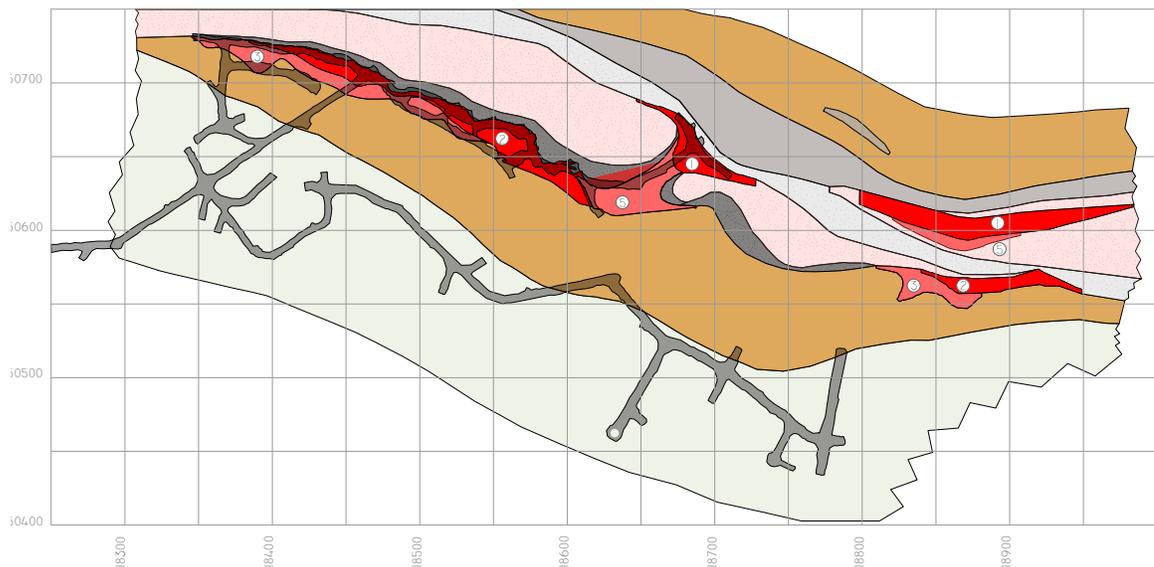
Mining Operations

Beneath Flin Flon are two inactive mines (North Main, South Main) and one active mine (777). These are owned by Hudbay Mineral and Smelting (HBM&S) The raw ore extracted from 777 is refined in the adjacent metallurgy plant and concentrator to produce zinc, copper, gold and silver. These facilities are slated to close in 2021 as the economically viable ore bodies are nearing depletion.¹

Ore bodies in the Flin Flon Greenstone Belt are generally discovered through geophysical techniques (airborne and surface surveys). In contrast, the 777 ore body was discovered through exploratory core samples; drilling to depths of over 1,682 meters. As of 2011, over 3,300 drill holes were made to gather data on the 777 ore body since 1993.²

Level -1082 Plan
Geology + Mine

¹ Brett Pearson et. al. 777 Mine Technical Report. Technical paper. Toronto, ON: Hudbay Minerals, 2012. November 6, 2012. 6.
² Ibid, 1.

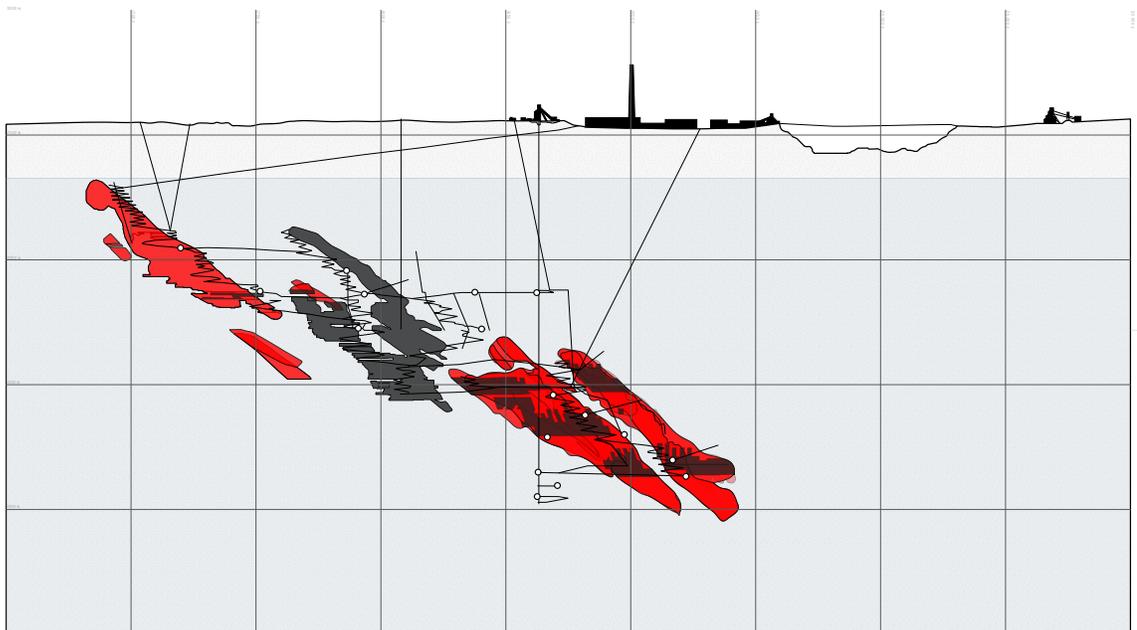


The 777 is an underground mine extending to just over 1.5 kilometers beneath the earth's surface. The mine shaft reaches 1 kilometer down, with internal ramps providing access to each mining level. Ground support consisting of rebar, wire mesh and structural tailings paste is installed into the mine.

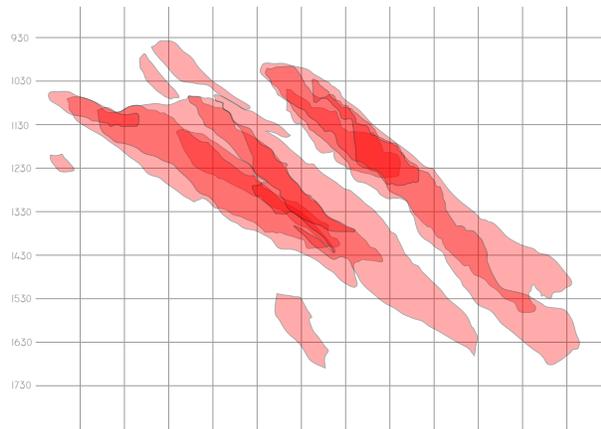
The diagram below shows the 777 Mine and ore bodies in relation to the metallurgy plant on the surface level. To the right of the metallurgy plant is the original Flin Flon Mine, referred to as the Techno Graveyard in this thesis.

On pages 55 to 56 are timelapse diagrams displaying the rate of extraction in one section of the 777 mine over the course of 9 years.

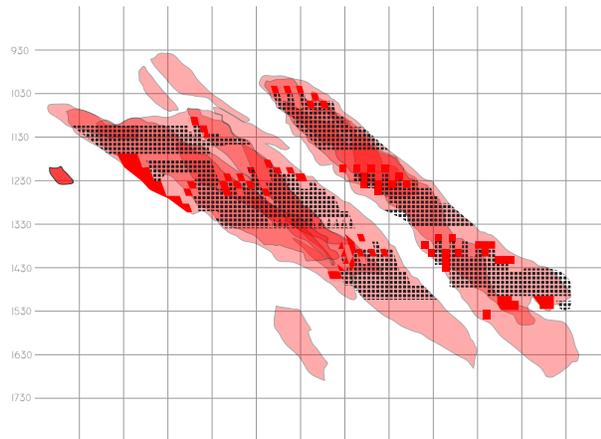
777 Ore Body Section



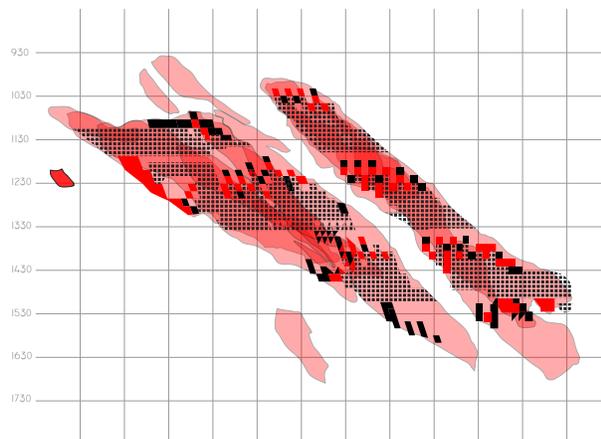
Ore Body Section
Looking East (Red)



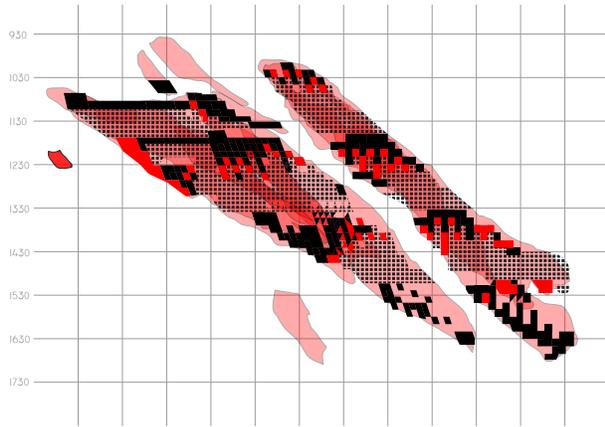
Non-Economical Ore
Deposits (Black)



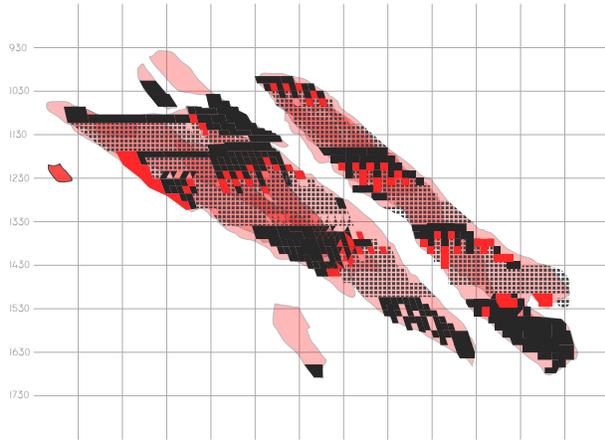
2012 Mined Ore
(Black)



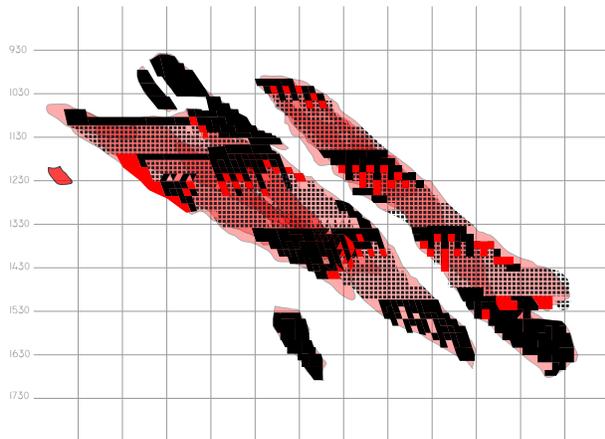
2015 / 2016 Mined
Ore



2017 / 2018 Mined
Ore



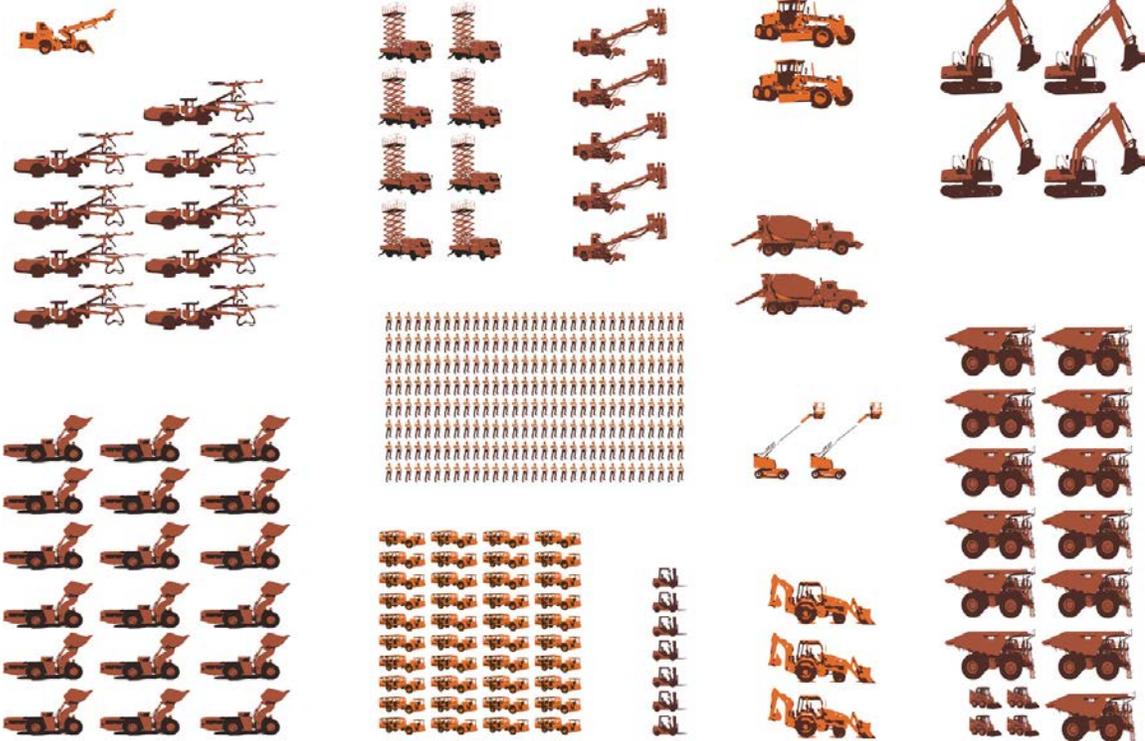
2019/2020 Ore to be
Mined



As of 2012, the following fleet was in operation for 777 mining operations:

- 1 scaler
- 9 jumbo drills
- 19 scoops
- 8 scissor lifts
- 5 bolters
- 230 humans
- 40 man carriers
- 7 forklifts
- 2 graders
- 2 cement trucks
- 2 lift trucks
- 3 backhoes
- 4 front end loaders
- 13 ore trucks
- 4 bobcats¹

¹ Ibid, 174.



Within the mine, jumbo electric drills create openings for explosives. Once detonated, the raw ore is sent through crushers underground to reduce its size to 0.15m in diameter. The ore is conveyed through the mine shaft loadout, where it fills ore trucks. In 2011, HBM&S reported a production of 4,300 tons of ore a day, and two million tonnes of ore annually.



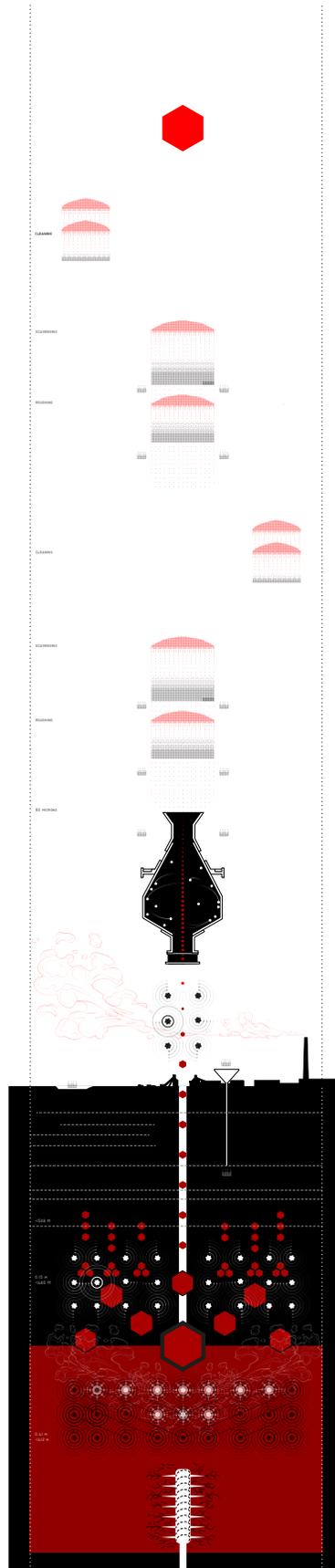
Crusher Conveyor

Once inside the concentration and metallurgy facility, the raw ore is crushed once again in ball / rod mill pulverizers to the size of 70 microns (approximately the diameter of a strand of hair). The ore is placed in a flotation tank circuit, where copper floats to the top. It is then recirculated to capture the secondary metals (zinc, gold, and silver). This concentrate is then dewatered and filtered to achieve a desirable moisture content and purity.



Smelter Skimmer

Extraction and Refining Processes of Ore to a Pure Element



Economic Diversification + Life After Mining

In previous years, Flin Flon has tried various means to encourage economic diversification. In the early 2000's, a wing of Trout Lake Mine was repurposed as an experimental farm where flowers, medical marijuana and other plant pharmaceuticals were grown. An underground greenhouse was chosen for security and climate control. Recently, the city applied for permits to store and manage nuclear waste in decommissioned mines. This application was rejected: the rock in the area had a large sulfide content and is extremely porous, making it poorly suited to store nuclear waste.

HBM&S has priced out the closure and remediation plans for 777 and the surrounding areas to cost \$200,000. It allows for contaminated soil to be excavated, disposed of, and replaced with a growing medium to be seeded and fertilized.¹

¹ Brett Pearson et. al. 777 Mine Technical Report. Technical paper. Toronto, ON: Hudbay Minerals, 2012. November 6, 2012. 20-22.



Mandy Mine (5.6 km Southeast of Flin Flon Mine) in August, 2018. It closed in 1944.



Mandy Mine in
August, 2018.

Flin Flon reinforces many of the values displayed in *The Sunless City*; the displacement of indigenous peoples through colonization, economic immobility, the traditional role of women in the community, and the desire for mineral wealth at great cost. As the last mine is preparing to decommission in 2021, Flin Flon is coming to terms with its economic exhaustion and environmental devastation as a result of mining and smelting. It is a great irony that the city of Flin Flon celebrates *The Sunless City* when it foretells the literal and metaphoric enslavement of humans and miners for the quest of minerals.

Existing in a grey area of parallel worlds, the lines between its fictional narrative and lived histories are intertwined. In addition, the city continuously negotiates its parallel spatial existence of the mine beneath it as it draws rock onto its surface - the very process that signals the end of the city.

Chapter 5: Toxic Terrains



Wax cast of slag
collected from the
Amisk Region

Artifacts of *Toxic
Terrains* Exhibit:

1. The Skull of Bessie
2. Text on Mining
Techniques
3. Slag
4. Zinc Leaching Pit
5. Plans and
Photographs of Flin
Flon's Trout Lake
Mine Grow Operation
5. *Toxic Terrains* Fold-
out Book



The Death of Bessie

Flin Flon welcomed the arrival of their first cow and calf- Daisy and Little Bessie. Bessie was sucked into the mill tailings and drowned in 1931.¹ Following a period of drought in the 1970's, her skull was found in the tailings pond, remarkably well preserved, but embedded with fragments of zinc.

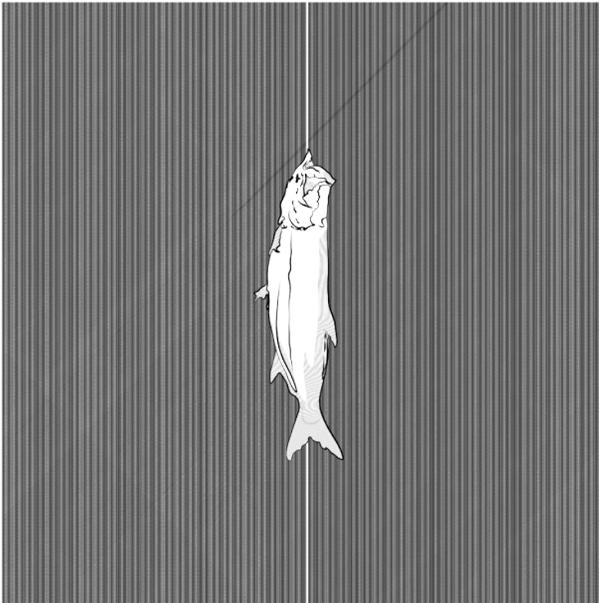
¹ "HBM&S Albums & Slideshows," Flin Flon Heritage Project, , accessed May 4, 2019, <http://flinflonheritageproject.com/mining/wppaspec/oc1/lnen/cv0/pg1/ab389>.



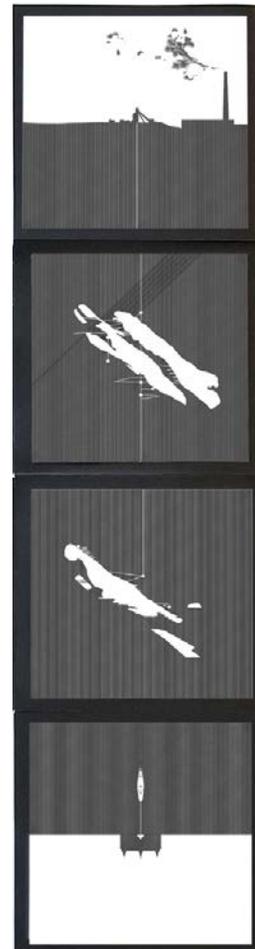
The Skull of Bessie

The Nature Vaults

The mining industry has altered the natural ecologies of Flin Flon's surface terrain. They have changed to expel native species and create dark, poisonous havens for only the most formidable beasts. Constructed biospheres in Flin Flon's vaults conserve the nature that can no longer live on the surface.

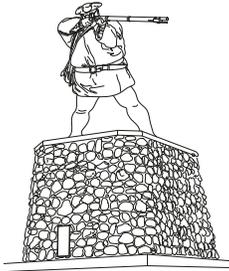


Section of *Toxic
Terrains* Fold-Out
Book, Detail of a Fish
being conveyed to
earth through a mine
shaft



A unique approach to environmental stewardship in the region was inspired by historic experimental farming in the region, and the Trout Lake Mine marijuana grow operation. It is funded through Manitoba Conservation, and supplemented by hunting fees.





Hunting and fishing have historically been popular sports for locals and tourists. A variety of vaults offering distinct ecosystems exist within the mines surrounding Flin Flon. A limited amount of licenses and tags are sold each year to ensure a diverse ecosystem in this new subterranean frontier. This new identity of Flin Flon as a rejuvenated hunting city has changed their culture and identity. Their mascot, Flinty, has been reimagined to be portrayed as a hunter rather than his previous incarnation as a prospector. His cairn is located at the entrance of the city, welcoming their new hunting economy.



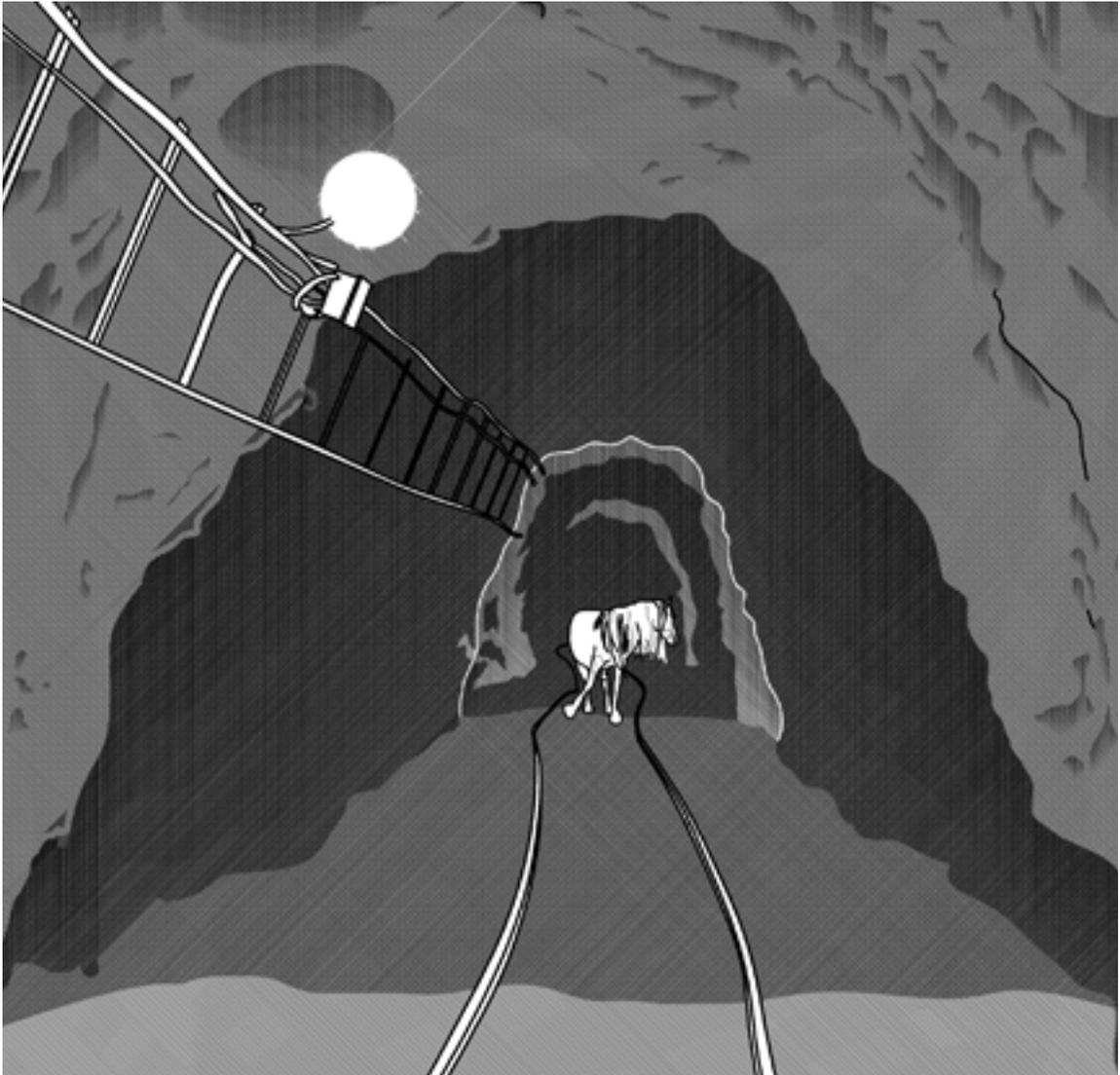
Using machines to cultivate a new nature, they have created a caricature of what they remember nature to be.



As dewatering processes cease in abandoned mines, fresh groundwater swells provide aquatic environments suitable for marine life. This water is redistributed into other wildlife biospheres to create rivers, ponds and lakes.



It is said that a pack of pit ponies working for HBM&S in the South Main Mine escaped from their handlers in the 1940's. After generations of living underground, their eyes are covered over with a milky white film. Locals have told stories of hearing the echoing whinnies reverberating in the underground labyrinths, and the hollow knocks of hooves falling on the hard stone ground.



Chapter 6: Technofossils



Wax cast of slag
collected from the
Amisk Region

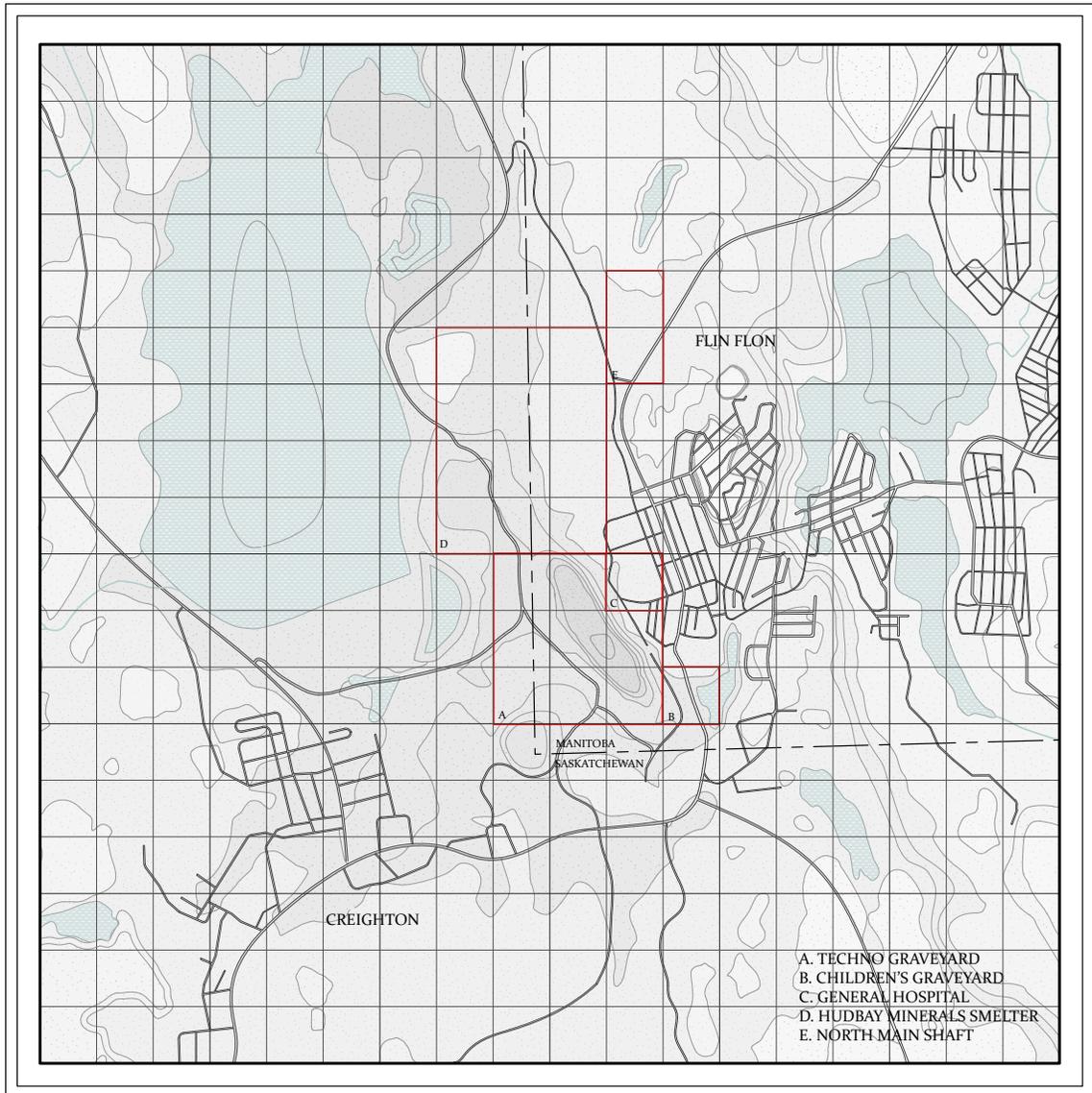
The Archaeological Fieldnotes of Bascom William

Bascom William is world-renowned for his contributions to the field of Technolife. His body of work addressed an urgency in the anthropocene; the necessity of redefining society's binary understanding of natural ontology. The fragility of the environment, and the consequences of climate change. All work within this volume is a curation of his field notes that survived the 2031 flood of the Flin Flon City hall.

The Manuscripts and Artifacts of Bascom William:

1. Photograph of a pulverizing ball delivery
2. *The Archaeological Fieldnotes of Bascom William Vol.1*
3. Core Samples
4. Pulverizing Ball
5. Photograph of Slag Dump
6. The Mandible of a Creature burned and preserved by slag
7. *Reconstructions of Technofossils* by Bascom William.
8. *Book of Burial Topographies* by Bascom Wiliam depicting the Techno Graveyard





FLIN FLON
 DISTRIBUTION OF DOCUMENTED TECHNOFOSSIL SITES
 ARCHAEOLOGICAL SURVEY MAP
 BASCOM WILLIAM, 2028

From the Fieldnotes of Bascom William

The archaeological site at 54°45'43.70"N, 101°52'48.31W was discovered by the Canadian Archaeological Association to have a large variety of fossilized Technobeasts. Initially, spectrographic analysis revealed the site referred to in the following report as The Techno Graveyard to be a massive burial site of interest to scientists and anthropologists. The site is approximately 0.83 kilometers in length, 0.12 kilometers in width, running North West to Southwest. The target area was once registered to Hudbay Minerals, and is now unremediated crown land.

Physical surveys of the land indicate a mass extinction of Technobeasts from the years of 1945 - 1990, with a final blow in the 2020's. During this era, the city of Flin Flon was at its prime in the resource extraction industry.

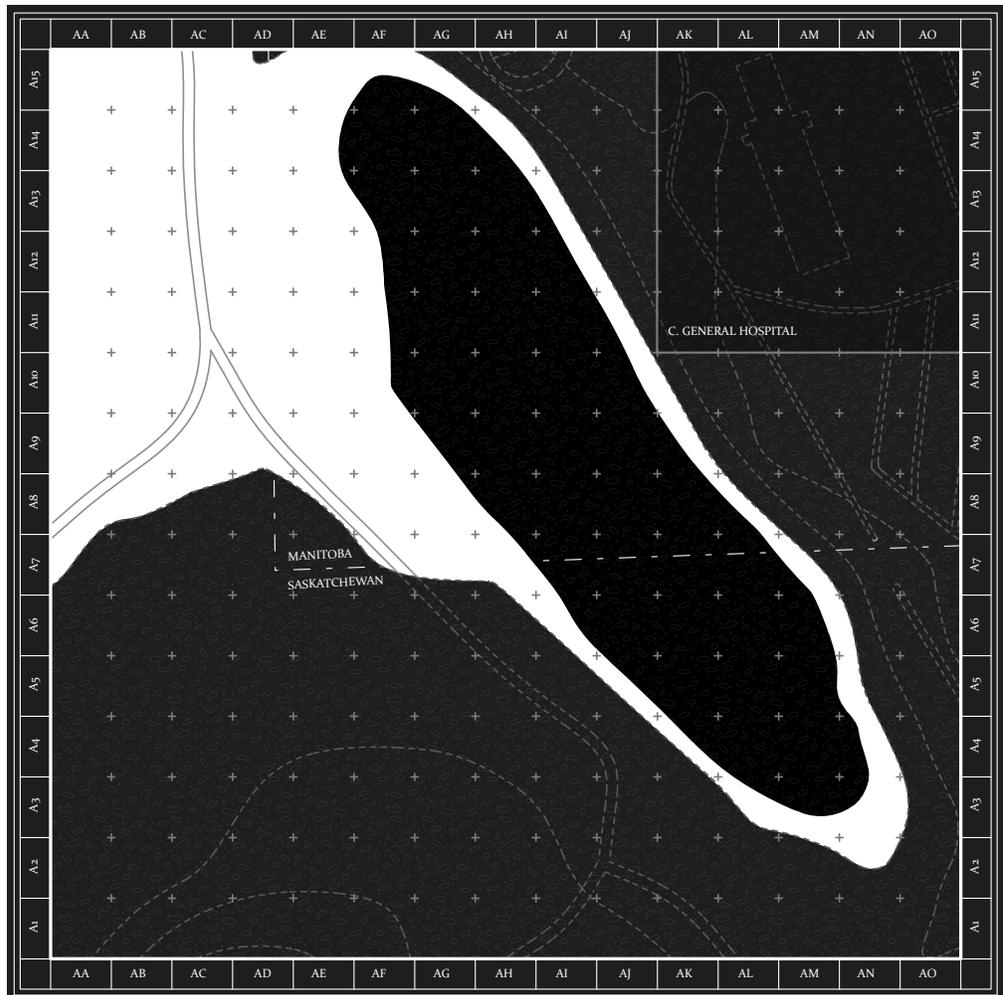
Excavation allowed both in situ investigation as well as more targeted investigations within laboratories of specimens found. This resulted in detailed information on chronology and context of death, as well as proper classification and hypothetical reconstruction of species. In situ investigations allowed for analysis of physical attributes in relation to site features and adjacent artifacts.

Analysis of artifacts reveal the beliefs, values and behaviours common at the time of burial as shared by members of the Hudbay Minerals society. Its close proximity to the Children's Graveyard and the General Hospital for Humans is believed to hold a deep cultural significance.

It is hypothesized that through the circumstance of mineral extraction, the ecologies changed so drastically to expel native species and create dark, poisonous havens for only the most formidable beasts. These are the Technobeasts found within the Techno Graveyard.

Site A. The Techno Graveyard

The old Flin Flon Mine has been a convenient place to dump expired techno beasts and slag for generations. Viewable from the General Hospital, this ominous chasm represents the relationship of bodies and land, and the expiration of both. The Techno Graveyard holds the evidence of extractions influence, by holding the remains of techno and ore bodies.



Site B. The Children's Graveyard

"I can well remember the first burial we had in Flin Flon. There was no cemetery and the question arose as to where the body could be placed to rest. Naturally we chose a where the earth was deep enough to make a grave and where the digging was easy. We chose the site that is now the small graveyard at the south end of the Main Street.

Several people were buried there until one day an official of the Saskatchewan Government came snooping around and made the startling discovery that the graves were in the "Province of Saskatchewan!"

He raised quite a fuss and said the bodies had to be exhumed and reburied in the "Province of Manitoba" where they belonged. However nobody seemed to be responsible for the location, or could recall how it was chosen in the first place, with the result that they are all still quietly resting there.

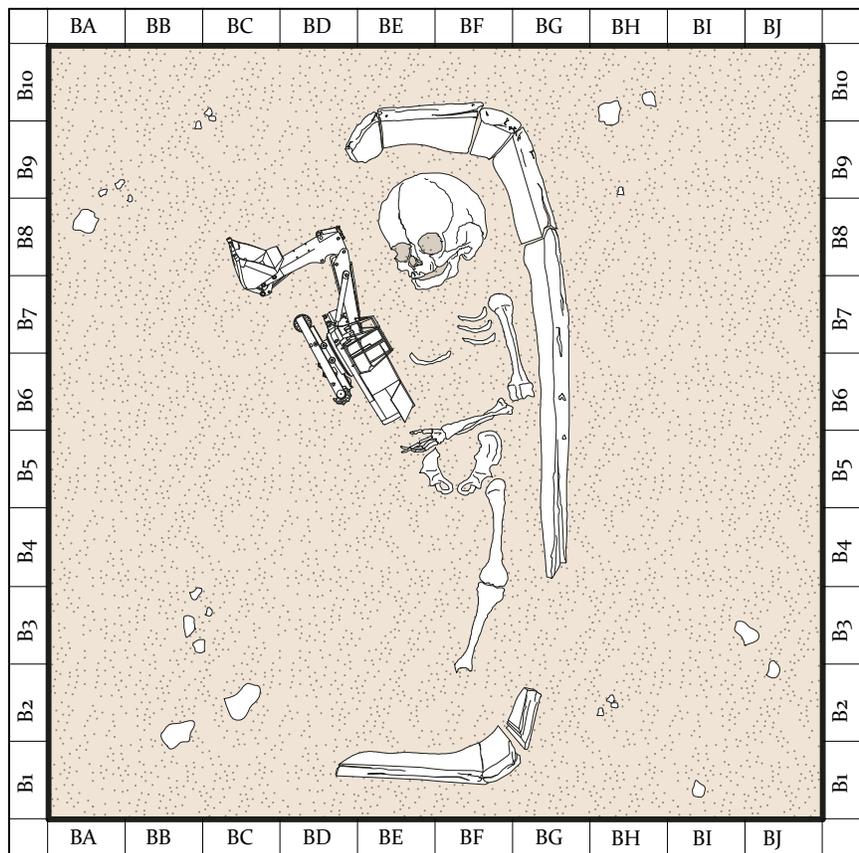
But let me tell you that you can get yourself into a peck of trouble by deciding to bury people just any old place where the digging is good."¹

- George Evans, Mayor of Flin Flon 1937 - 1938

¹ Gerry Clark, "Flin Flon Cemeteries," Flin Flon Histories, accessed May 04, 2019, <http://www.flinflonhistories.ca/cemeteries.htm>.

The acid rain caused by the metallurgy plants smoke stacks caused a massive change in the soils pH levels. High levels of acidity leached through the soil to the depth of burial. This depth is approximately four feet down, as further depth was prevented by rocky geological conditions. The wooden coffins were disintegrated, leaving only strings of soft, rotted wood.

Few skeletal remains were intact, however miniature Technobeasts were buried with the children. This is hypothesized to have a profound cultural significance, due to the close proximity to the Techno Graveyard burial site.



Remains B4 @ BB

Site D. Hudbay Minerals Smelter

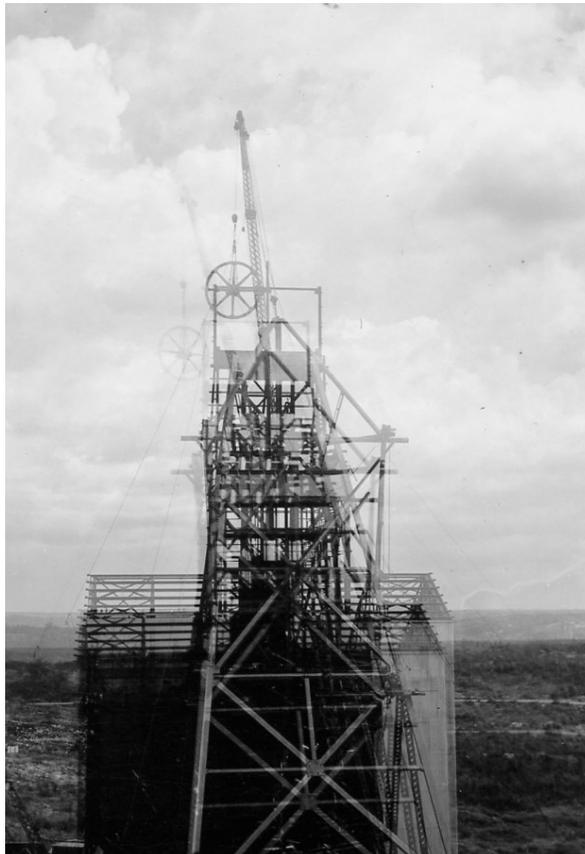
It is said that in the 1960's, a wolf suspected to be infected with rabies entered the HBM&S slag dump site. Despite efforts to move it to safer ground, it burned itself on a fresh slag heap. This mandible preserved in oxidized slag was discovered by Bascom William during his archaeological digs at Site D. Hudbay Minerals Smelter.



Mandible of a Wolf

Site E. North Main Shaft

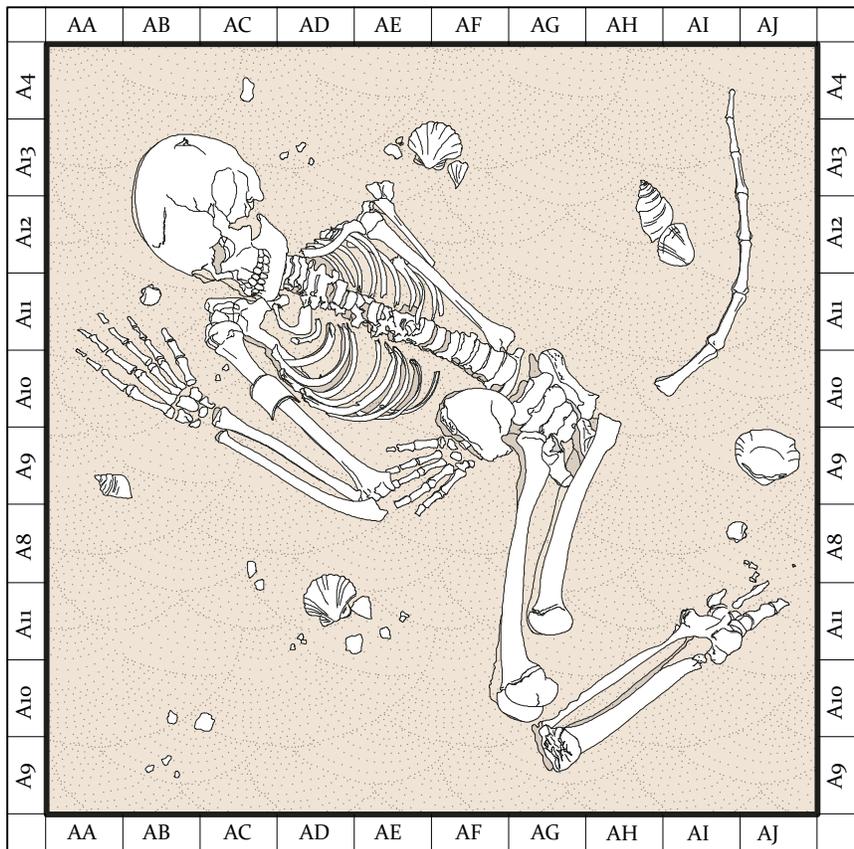
Below the North Main Shaft, our team discovered what is believed to be the entrance to the Esnesnon. Approximately 1.5 kilometers down, our exploration team of 6 people and 9 mules set up a basecamp. A few weeks in, we discovered the curious remains of a pre-human species. She was decorated with tin cuffs and the shells from a nearby subterranean river. Historians and anthropologists believe her to be the Princess Yombot, who journeyed with Flintabbatey Flonatin to the surface of Flin Flon. Her remains have been exhumed and laid to rest next to the cairn of Flintabbabey Flonatin.



North Main Shaft
Double Exposure

Plan of Remains E7 @ EB

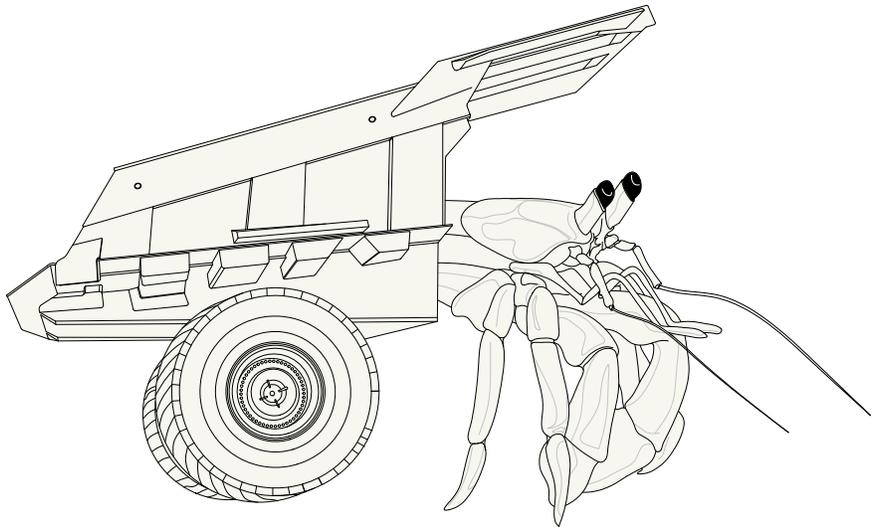
The subject was discovered within 20 feet from the subterranean River Alph, which flows with slightly acidic waters (environmental by-products of the decommissioned mining site above). Although no soft tissues remain, the skeleton of the pre-human female is well preserved despite the acidic and humid environment. She has a long tail and a tin cuff on her arm, indicating a high status in the Underworld. Her bones were stabilized from the acidic soils by the presence of calcium, as she was surrounded by seashells from the river.



Plan of Remains E7
@ EB

Ore Carrier

The Ore Carrier has a dense metal vertebrae that cantilevers over its head to protect its operating system. Its movements are slow, with a wide turning radius. It is able to carry up to 42 tonnes of material. It carries raw ore materials from the underworld to the smelter.

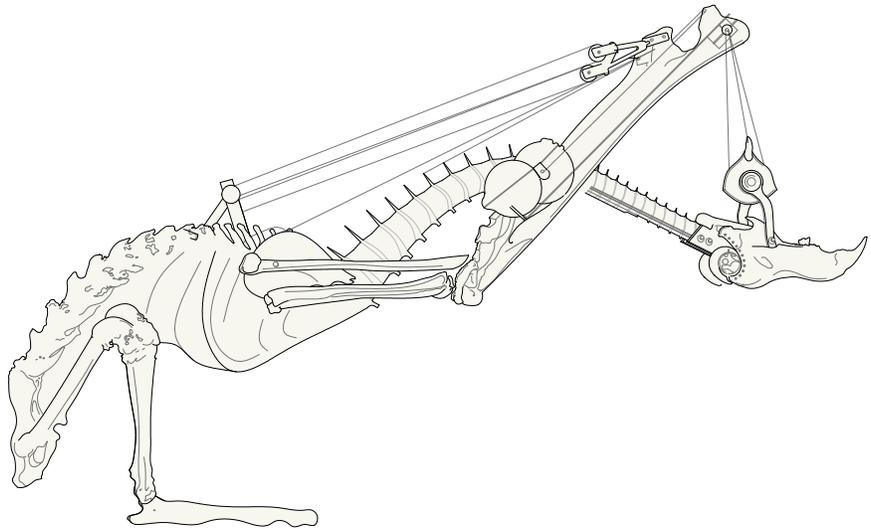


Marion Digger

The Marion is a tragic beast, whose biology dictates they only dig downward. It is named after its exposed system of steel cables and winches that control its limbs as though a puppet.

The Marion appears always in a crouched tangle; its broad, scooped beak is held up with cables connected to its arms, which raise and lower its reticulated neck in graceful dipping motions. Transferring mouthfuls of rock and earth, it crawls slowly to keep a low centre of gravity.

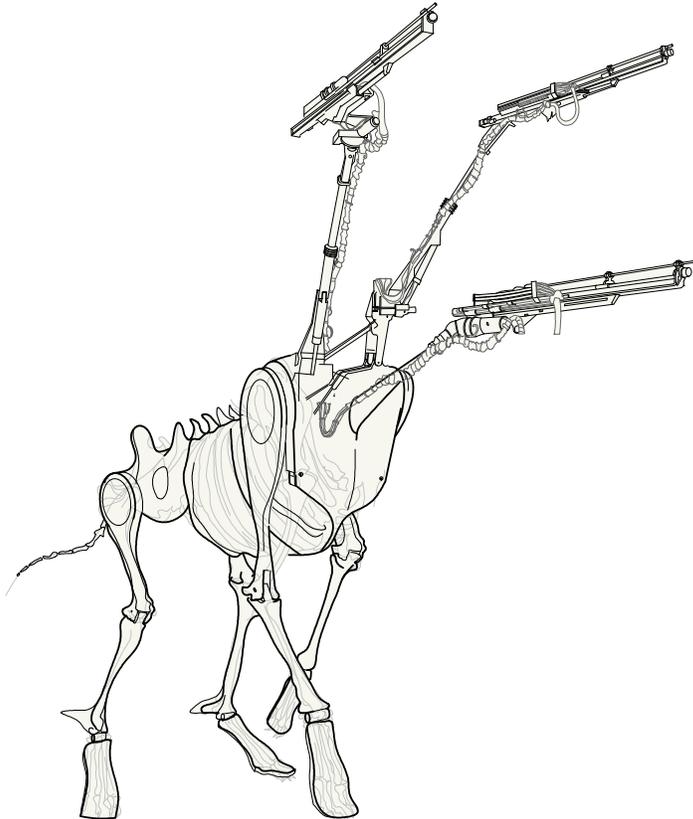
The Marion is a social creature, and they are often found in families of four or five in one territory. They communicate with light, often blinking to other Marions in noisy environments.



Venemous Cerberus

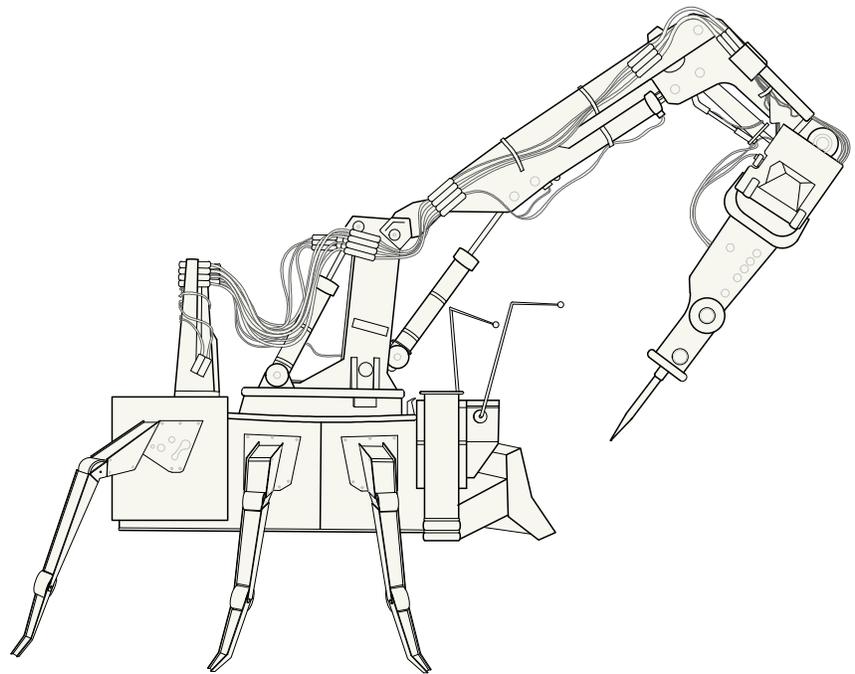
The Venemous Cerberus is a three-headed dog that hunts for raw ore in the underworld. It has a small, agile body well suited for traversing the underground mining systems prevalent in the Amisk Region. They are sure-footed, with a rubberized grip located on their paws.

Unlike other known dogs, the Venemous Cerberus kills its prey through explosive detonation. Each of its three heads is capable of latching onto its subject, and drilling deep into its body with diamond-sharp rotating teeth. Once reaching a suitable depth, the Cerberus deploys an explosive agent, leaving the area before it detonates; reducing the ore to manageable pieces.



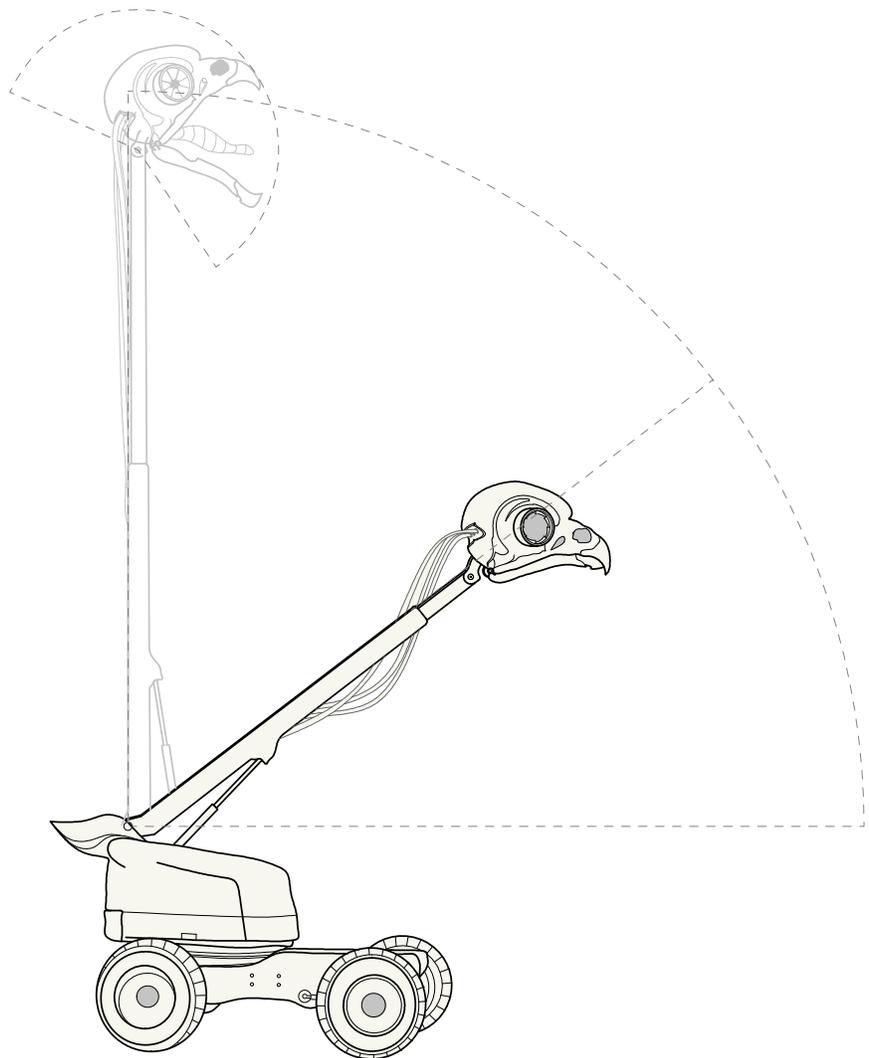
Scaler

Description of Beast missing.

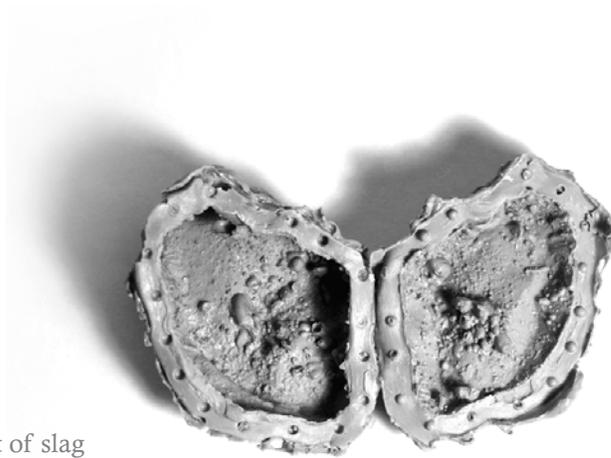


Cherry Picker

Description of Beast missing.



Chapter 7: Epilogue



Silicone cast of slag

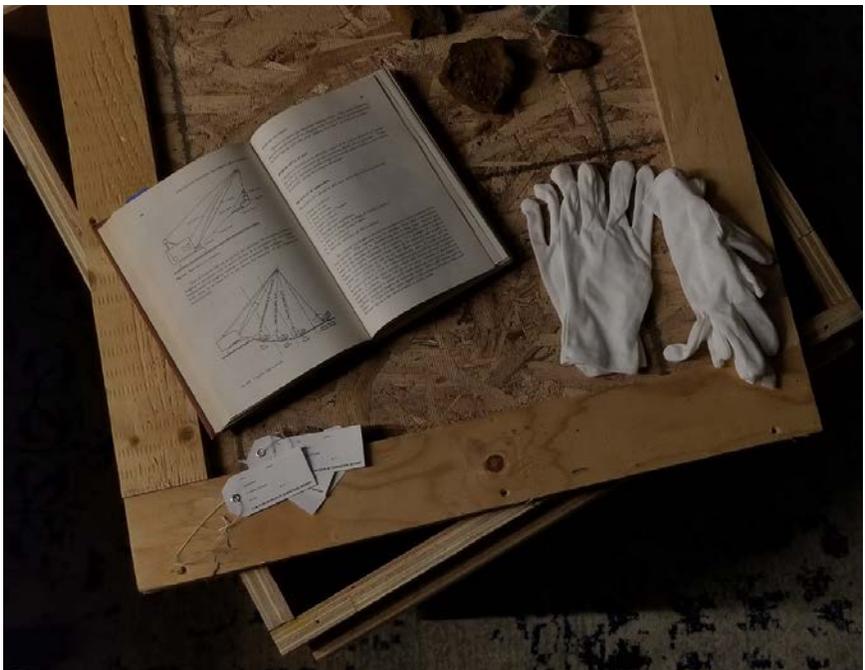
The themes addressed in this thesis; of extraction, nature, and the anthropocene, are urgent. As humans, we are unable to truly grasp the consequences of such a massive worldwide phenomenon; we can only catch glimpses of its effects. By displaying these themes through tangible and often visceral means, I hope to facilitate new conversations, new ideas, and methods of reflection.

The absurd reality of Flin Flon is a result of social, economic and government systems. It is one of many dying resource towns in North America, suffering the economic and environmental repercussions of the resource extraction industry. On a societal scale, it is but one example of our human-centric views that claim natural resources as something “other” than the essential ecology that sustains us. On a global scale, it is but one small geological marker of the Anthropocene and climate change.

The Anthropocene and the changes it has wrought (mass extinctions, shifting weather patterns, climate refugees, racial, cultural, and economic inequalities) also poses profound philosophical questions for the human species. The role of our imagination is, as a result, essential and necessary in order to overcome the complacencies of our perceived conditions, our current systematic frameworks, and the paralysis caused by the overwhelming weight of our environmental reality.

Exploring Flin Flon through the lens of narrative and storytelling was an opportunity to confront issues of indigenous relations, gender, extraction, and the body. Questions and curiosities about the absurd revealed fraught relationships to land, resources and systemic frameworks.

Narrative is one possible tool for imaginative discourse on the problems of today. The bizarre and absurd worlds presented in this thesis are both science fiction, and reality. They are mirrors to our present moments; an extrapolation and exaggeration of Flin Flon’s past and present. I believe these to create a productive dystopia; one that guides us to be critical and active agents in the futures we want to be living in. They are here and now, and they are a symptom of the Anthropocene; human and industrial impact.



Final Exhibition in the
Basement Archives



Final Exhibition in the
Basement Archives

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