



Submission on the Terms of Reference for a Regional Assessment in the Ring of Fire Area

**Comments on the Impact Assessment Agency of Canada's
Information Sheet for the Regional Assessment in the Ring of Fire
Area, Reference Number 80468**

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Introduction

This document represents MiningWatch Canada's comment on the Terms of Reference for the Regional Assessment on the Ring of Fire Area.

MiningWatch Canada's expertise comes from over twenty years of following mining in Canada and the activities of Canadian mining companies abroad. Not only have we been listening to communities in this country talking about the impacts they face from mining, but we have carefully researched and engaged on issues of policy and regulation in this country. Although we are aware that there are other development and industrial plans for the region, most particularly forestry and hydroelectric development, we will restrict our recommendations to mineral development.

Below is a summary of our conclusions.

1. **Indigenous Governance:** We support the centrality of Indigenous governance in the Regional Assessment process for the communities most affected and the downstream communities on the impacted watersheds of Attawapiskat, Winusk, Ekwan and Albany Rivers. Useful guidance for the Agency for creating space and opportunity for this to happen is found in Gibson (2020) and Scott, Atlin et al (2020).¹
2. **Boundaries:** The regional boundaries for the Regional Assessment must be determined by natural ecosystems and Indigenous traditional use, not by mining interests. The decision defining the "region" for the Regional Assessment must be made by the Indigenous people and their governments. The Regional Assessment will also have to explicitly consider the effects of existing and potential flows of people, material, energy, and money in and out of those catchments. For example, the impacts of the three roads currently in EA, and the proposed development of a chromite mining industry including a smelter in Sault Ste. Marie (or elsewhere), need to be included in assessing Ring of Fire mining impacts.
3. **Sustainability and need and purpose:** The work of the Regional Assessment has to be centred on questions of the sustainability of the natural systems in the region for many generations, and the long-term health of the Indigenous people who live there, based on the WHO Determinants of Health. This requires serious consideration of the need and purpose of the Ring of Fire mining development from the perspective of healing and sustaining the ecosystem, not helping the mining industry. Guidance may be found in *Seven Steps to Sustainability*, developed by the Mines Minerals and Sustainable Development project in 2002.
4. **Historical and current effects of mining in the region:** The Regional Assessment has to investigate past and current effects of mineral development in the region, including the extent and impacts of claim staking under the Ontario Mining Lands Administration System and the principle of Free Entry, exploration impacts, and effects on communities of mining promotion and hype. A follow-up case

¹ *Synthesis Report: Implementing a Regional, Indigenous-Led and Sustainability-Informed Impact Assessment in Ontario's Ring of Fire*. Dayna Nadine Scott, Osgoode Hall Law School/Faculty of Environmental Studies, York University, Cole Atlin, Memorial University, Estair Van Wagner, Osgoode Hall Law School, York University, Peter Siebenmorgan, Advisor, Eabametoong First Nation, Robert B. Gibson, School of Environment, Resources and Sustainability, University of Waterloo. In partnership with Chief Chris Moonias and Neskantaga First Nation. 14 April 2020

study of the only recent mine in the region, the Victor Diamond Mine (2008-2019), comparing predicted to actual outcomes and assessing its impacts, is essential to a realistic Regional Assessment.

5. **The Ring of Fire scenarios:** The Regional Assessment will have to consider many scenarios for possible Ring of Fire development, including a no mining option. We suggest a matrix for scenario development that includes factors to consider for all scenarios, some suggested scenarios for Ring of fire development over time, and questions for evaluating the scenarios.
6. **The Capacity of Regulators to Protect the Environment:** There will be serious and long-reaching difficulties for governments to protect the environment and to honour its relationships with Indigenous Peoples in the face of a major extraction project such as the Ring of Fire. This section raises concerns that the Terms of Reference should address.

1. Indigenous Governance

We support the concept of Indigenous governance in the Regional Assessment process for the communities most affected and the downstream communities on the impacted watersheds of Attawapiskat, Winusk, Ekwano and Albany Rivers. Useful guidance for the Agency for creating space and opportunity for this to happen is found in Gibson (2020)² and Scott, Atlin et al (2020).³

MiningWatch Canada supports processes that enshrine and protect the ability of Indigenous peoples to free, prior and informed consent (FPIC) before extractive activities take place on their territories. We understand that this consent is undermined by the displacement, dispossession and impoverishment of the communities; by the strictures of the Indian Act and other federal and provincial regulation and policy; and by the “lack of other promising livelihood options and the fear that the project will go ahead.”⁴

Most regional assessment experience in Canada has taken place in areas where modern treaties have been signed. However, the Ring of Fire Regional Assessment will take place on lands that are part of the discredited Treaty Nine, signed in 1905 (with adhesions in 1929), where now some of the most impoverished and desperate reserves in the country are located. In 2021, most of these communities are dealing with regular spring flooding, climate change impacts to winter roads, mouldy, inadequate and over-crowded housing, undrinkable water and ineffective sewage systems, outrageous food prices, diminished access to country food, isolation, diabetes and other diseases, youth suicides and – now – COVID-19. Their populations are growing but remain small, and the leadership is thinly spread and overburdened with regulatory requirements and reporting. This constitutes a state of social emergency.

With Scott *et al.*, we agree that a serious state of social emergency exists in these First Nations and that new mines should not even be considered until it is addressed.⁵ “*The ongoing state of social emergency*

² Gibson, R. G., McCarthy, D. D. P., Staples, K., Cooper, K., Cloutis, G., Bean, J., Scott, D. N., Doelle, M., & Sinclair, A. J. (2020). *Synthesis at the nexus of sustainability assessment, regional/strategic assessment and Indigenous partnerships*. https://www.sshrc-crsh.gc.ca/society-societe/community-communite/ifcaiac/evidence_briefs/donnees_probantes/environmental_and_impact_assessment/evaluations_environmentales_et_impacts/gibson_scott_doelle_sinclair-eng.aspx

³ Op. cit., Scott et al.

⁴ Op. cit., Gibson et al.

⁵ Scott, Atlin et al. write: “*The proposals also present a likelihood of inequitably distributed benefits and risks at a variety of physical and temporal scales, with remote Anishinaabe and Anishini communities and their ways of life particularly vulnerable*

must be addressed first, before new projects can be adequately considered. Communities must be satisfied that any potential new projects or infrastructure will mitigate the crises, and enhance long-term social, cultural and ecological sustainability.”⁶

The historical impact of mining on Indigenous people in Ontario is an ugly one; mining has been at the cutting edge of colonialism. The almost mythical status that mining has in the province ignores the huge price paid by the Indigenous people who were displaced, dispossessed, and impoverished by the mines, infrastructure, and settlements that grew up around them in Timmins, Sudbury, Kirkland Lake, Elliot Lake, and Red Lake.

In Sudbury – the lands of the Atikameksheng Anishnawbek – \$1 trillion in mineral wealth has been removed since the mines were discovered.⁷ The mines and smelters damaged more than 80,000 hectares of land,⁸ and four tailings impoundments (one 3500 hectares in size and growing⁹) will have to be cared for in perpetuity. Millions of dollars and massive volunteer effort have succeeded in re-claiming 3500 hectares after 40 years of work.¹⁰

The Ring of Fire area is in Treaty Nine territory, a vast region stretching north of the height of land around the Great Lakes to James Bay. This had been the area granted to the Hudson Bay Company by the British government. By the time the Treaty was introduced, Indigenous people in the region had suffered numerous waves of epidemics of smallpox, measles, and tuberculosis which reduced the populations by 50-90% each time they swept through, and there was a widespread famine.

The purpose of the Treaty was to open the lands of the Anishnaabe, Anishiini and Omushkegowuk peoples “for settlement, immigration, trade, travel, mining, lumbering and other such purposes.”¹¹ The Indigenous signatories were required to “cede, release, surrender and yield up...their rights, titles and privileges” to lands and resources within the boundaries of the treaty. Upon signing, the Indigenous peoples received a one-time lump sum payment of \$8; in addition, each signatory received a Union Jack flag and a copy of the treaty. Treaty annuities were set at \$4 for each person; the amount has never been increased. The treaty was signed in 1905 and additional adhesions to the treaty were signed by 1930.

It has become clear subsequently that the Treaty Commissioners and their translators lied about what the treaty said.¹² The Canadian Encyclopedia states that “the legal concepts “cede, release, yield up and surrender”¹³ were not part of the Cree and Ojibwe vocabulary or world view.”¹⁴

It was the express policy of Canada and Ontario to assimilate Indigenous peoples and force them off their traditional lands: restricting them to tiny reservations, forcing their children into residential schools, underfunding housing and community infrastructure and forbidding most cultural practices. All this has been well-documented by a series of commissions and court cases, including the Royal Commission on

in this regard. These communities are already experiencing an ongoing state of social emergency with youth suicide, addiction and housing crises, as well as a persistent lack of essential community infrastructure, including safe drinking water.

⁶ Ibid.

⁷ <https://www.robinsonhurontreaty1850.com/>

⁸ Sudbury Soils Study Ecological Risk Assessment, 2009.

⁹ http://www.vale.com/canada/en/aboutvale/communities/sudbury/documents/vale_reporttothecommunity_2017_final.pdf

¹⁰ <https://www.greatersudbury.ca/live/environment-and-sustainability1/regreening-program/>

¹¹ <https://www.thecanadianencyclopedia.ca/en/article/treaty-9>

¹² <https://guides.library.queensu.ca/treaty-recognition-week-2018-treaty-9/macmartin-diaries>

¹³ Ibid.

¹⁴ <https://www.thecanadianencyclopedia.ca/en/article/treaty-9>

Aboriginal Peoples (1996)¹⁵, the Truth and Reconciliation Commission (2014)¹⁶, and the Inquiry into Missing and Murdered Indigenous Women (2019).¹⁷

The fact that the communities in the Ring of Fire have survived is a testament to their incredible strength and creativity. In the past few decades, they have had to deal with mineral exploration on their territories and the imposition of the Far North Act in Ontario (and now with its possible withdrawal). Recently chiefs downstream of the Ring of Fire called for a moratorium on mineral exploration so they can address their on-going social emergency (to no avail).

In recent years, some Treaty Nine First Nations in the long-standing mining camps of Timmins, Kirkland Lake, and Red Lake have been able to negotiate Impact Benefit Agreements (IBAs) and revenue sharing arrangements that finally return a tiny portion of company profits to their people.¹⁸

These agreements are private contracts, and endure only for the life of the mine. Both government and mining companies consider the signing of an IBA to be the equivalent of consent to the project. Their effect is to tie the community to the success of the mine: most of them contain clauses that prevent anyone in the signatory First Nation from opposing the project and/or voicing any dissent, and tie the Band Council to enforcing the agreements with their own people. They are also confidential. As most modern mines only last ten to fifteen years, the agreements also have a finite life, at the end of which the community has become dependent on the mine's expansion, or finding another mine nearby, to survive.

A comparison of the amount distributed by companies to First Nations governments¹⁹ reveals that the annual amount received by First Nations from mining companies on their lands is never more than the total amount paid as compensation to their corporate Named Executive Officers.

For example, in 2018, the Detour Lake mine on the north-eastern side of Treaty Nine, one of Canada's largest gold mines, with metal sales of over \$1 billion a year, distributed \$4.7 million to the affected First Nations, but paid its Named Executive Officers \$12.2 million in compensation.²⁰ In 2019, the company was sold to Kirkland Lake Gold for \$4.9 billion and the same NEOs received twice their salary in "termination payments". As for sharing a portion of taxes and royalties paid to Canada or Ontario, Detour Lake paid none in 2018 at all.²¹

A scan for other mines in Treaty 9 indicate that this is a best-case scenario.

In the watersheds considered for the Regional Assessment, there is only one recent mine: the Victor Diamond mine, about 90 km upstream on the Attawapiskat River from Attawapiskat First Nation. Opening in 2008, it closed in 2019 when the diamonds were depleted. DeBeers had been exploring for diamonds in the region for about fifteen years before the mine opened. Later in this submission we ask for detailed follow-up case study.

¹⁵ <https://www.bac-lac.gc.ca/eng/discover/aboriginal-heritage/royal-commission-aboriginal-peoples/Pages/final-report.aspx>

¹⁶ <https://trc.ca>

¹⁷ <https://www.mmiwg-ffada.ca/final-report/>

¹⁸ For example, Newmont Goldcorp now has agreements with Lac Seul First Nation (for mines in Red Lake and Balmerton), First Nations in the Wabun Tribal Council (for Musselwhite mine), and Flying Post First Nation (for its mines in Timmins).

¹⁹ Information from the First Nations Financial Transparency Act and the Extractive Sector Transparency Management Act (ESTMA) and corporate filings on SEDAR.

²⁰ From Detour Lake SEDAR filings and information under the Extractive Sector Transparency Management Act.

²¹ ESTMA filings.

The Agency has the ability to create the capacity and opportunity for full Indigenous participation in the Regional Assessment.

The Agency or other Government departments may also, where appropriate, work with Indigenous communities to develop consultation protocols and frameworks for collaboration that would be specific to consultation in an impact assessment context. To the extent that existing consultation protocols or agreements are relevant, such as general consultation protocols or modern treaty environmental assessment chapters, the Agency's intention would be to follow them or build on them. Ideally, consultation protocols and frameworks for collaboration would be in place in advance of the commencement of an impact assessment, as they help provide clear expectations for all parties from the start, and they provide a basis for developing a project-specific Indigenous Engagement and Partnership Plan.²²

The Indigenous governing bodies recognized in the Act appear to be limited to those under land claim agreements or self-government agreements. That definition would exclude many other Indigenous governing bodies – for example, First Nations that were recognized under the historic treaties or that never signed a treaty or land claim agreement. However, these too could be recognized as jurisdictions for assessment partnership agreements if the government makes a regulation to empower the Minister to enter into assessment partnership agreements with them (Impact Assessment Act, 2019, sec. 114(e))(Canada, 2019, s.114(e)). According to the Impact Assessment Agency, the “Indigenous cooperation regulation” is to be in place before the end of 2021 (IAAC, 2019b).²³

Precedents

There are precedents in individual project assessments that should influence this Regional Assessment: the Kemess North, Prosperity/New Prosperity, and Ajax mining projects (all in B.C.) were turned down following environmental assessments (EAs) because their impacts on Indigenous peoples were unjustifiably great, while any economic benefits they had were to be enjoyed elsewhere. Many of the hearings for all three projects were held in local Indigenous communities, where anyone could testify, and where appropriate ceremony was conducted as part of the process. These assessments enhanced the relationship of the Crown with Indigenous peoples. In the case of the proposed Ajax Mine, Stk'emlupsemc te Secwepemc Nation (SSN) did its own EA in parallel with the federal one.²⁴

2. Boundaries

The regional boundaries for the Regional Assessment (RA) must be determined by natural ecosystems and Indigenous traditional use, not by mining interests. The decision about the “region” for the RA must be made by the affected Indigenous people and their governments.

²² https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/policy-Indigenous-participation-ia.html#_Toc17465769

²³ Gibson 2020, page 73.

²⁴ Stk'emlupsemc te Secwepemc Nation (SSN). <https://stkemlups.ca/process/>

The RA will also have to explicitly consider the effects of existing and potential flows of people, material, energy, and money in and out of those catchments. For example, the impacts of the three roads currently in EA, and the development of a chromite mining industry including a smelter in Sault Ste. Marie (or elsewhere) need to be included in assessing Ring of Fire mining impacts.

There is a basic contradiction in naming the regional impact assessment “the Ring of Fire”, when it is the corporate name for the mineral deposits, and not an Indigenous name to characterize the historic environmental, social, or cultural identity of the region. The peatlands and boreal forests that cover the area have their own boundaries and rhythms. Flowing from and through the “Ring of Fire” are a number of rivers: Winisk, Ekwana and Attawapiskat. The only communities there are Anishnawbek and Anishini (Ojicree), peoples who have been in the region since the ice age.

Although the hyped-up proposals for mining²⁵ there have occasioned the RA, they should not define it.

The spatial boundaries include the watersheds of the Attawapiskat, Ekwana and Winusk rivers and their tributaries; the historic traplines, fishing areas, and hunting territories of families and communities in the region as they make their seasonal rounds; the home range, migratory and seasonal movements of people, moose, wolves, caribou, wolverine, and bears; and a diversity of fish species and migratory birds. This information is available through the knowledge of people who live in the region and is supported by a number of scientific studies.²⁶

Mining cannot be central to defining the RA’s boundaries; the industry should not be allowed to hijack the discourse any more than it already does.²⁷ The Ontario Mining Lands Administration System divides the province into claim blocks, with no regard for the natural systems that underpin it.²⁸

The temporal boundaries need to be based on the pre-colonial past and extend at least seven generations in the future.²⁹ We agree with the recommendations put forward by Wildlife Conservation Society for spatial and temporal boundaries and for the values associated with them. Indigenous knowledge must be used to decide on boundaries and values.³⁰

The region is deeply influenced by many factors that flow in and out of it and both threaten and enable sustainability for the people and the other natural systems there. It is already embedded within outside systems of governance, health care, financing, food supply, water supply, materials, mineral and forestry development projects, energy, transportation, which have their own structures, requirements and demands. Reinforcing the sustainability of the regional ecosystem itself requires re-imagining the relationship with these flows.

The regional boundaries must not be an excuse for project splitting in considering individual mining projects in the Ring of Fire. The most obvious examples are the proposed chromite mines in the Ring of Fire, which will require roads and rail as well as a ferrochrome smelter in order to be economic.³¹

²⁵ See McGee, Niall and Jeff Gray. The Road to Nowhere. Report on Business. The Globe and Mail, October 26, 2019.

²⁶ Cheryl Chetkiewicz, Wildlife Conservation Society Canada: A Discussion Paper in support of the Terms of Reference or Agreement for the Regional Assessment in the Ring of Fire. January 2021.

²⁷ Ibid.

²⁸ Ontario Mining Lands Administration System. <https://www.mndm.gov.on.ca/en/mines-and-minerals/applications/mlas-map-viewer>

²⁹ Op. cit., Chetkiewicz.

³⁰ Ibid.

³¹ Cliffs Chromite Project Description to CEAA.

Smelters and refineries do not require EA provincially or federally, despite their serious impacts. The Terms of Reference for this RA must include potential impacts to Sault Ste Marie and the transportation and energy corridors should any of the chromite mines go ahead.

Similarly, the three roads currently in the federal and provincial EA process³² will have impacts beyond the borders of the bioregion, and beyond their relationship to the proposed mines and must be part of any cumulative effects analysis in the RA.

In an extensive literature review and analysis undertaken by Gibson et al and published in 2020,³³ the authors write:

Moving towards sustainability... entails fostering and directing transformative change in systems that are driving unsustainable and otherwise undesirable change while at the same time rehabilitating and strengthening the resilience of these systems' capacities to deliver and support valued services... While the need for these changes may be increasingly evident, the interventions face inevitable challenges. They confront entrenched ideas, institutions and practices, which are notoriously difficult to dislodge ...They must proceed in a wide diversity of contexts, in which the specific conditions and possibilities will differ, power and advantage will be unequally distributed and the most vulnerable people and ecologies will be hardest to protect. Plus, complexity will always entail uncertainty.³⁴

3. Sustainability and need and purpose

The work of the RA has to be centred on questions of the sustainability of the natural systems in the region for many generations, and the long-term health of the Indigenous people who live there, based on the WHO Determinants of Health. This requires serious consideration of the need and purpose of the Ring of Fire mining development from the perspective of healing and sustaining the ecosystem, not helping the mining industry. Using Gross Domestic Product to measure benefit is not appropriate. However, guidance can be provided by *Seven Steps to Sustainability* developed by the Mines, Minerals and Sustainable Development project in 2002.

This section is organized as follows:

- 1) Guidance from the mineral industry in evaluating sustainability
- 2) The intrinsic value of the region's ecosystem services
- 3) The WHO Determinants of Health
- 4) Long-term community economic and social development alternatives to mining

³² Marten Falls Community Access Road, Webequie Road East to McFaulds Lake, and Webequie Road West

³³ Gibson, R. G., McCarthy, D. D. P., Staples, K., Cooper, K., Cloutis, G., Bean, J., Scott, D. N., Doelle, M., & Sinclair, A. J. (2020). Synthesis at the nexus of sustainability assessment, regional/strategic assessment and Indigenous partnerships. https://www.sshrc-crsh.gc.ca/society-societe/community-communitie/ifcaiac/evidence-briefs-donnees-probantes/environnemental-and-impact-assessmentsevaluations-environnementales-et-impacts/gibson_scott_doelle_sinclair-eng.aspx

³⁴ Ibid., page 15

Guidance from the Minerals Industry

The protection of ecological and economic sustainability needs to trump the right to mine. The Ontario government says it does not have discretion to withhold permits or to refuse to grant claims³⁵ even when First Nations do not want the claim to be staked or the permit issued, or even to those who cannot be trusted to mine responsibly (those who have abandoned mines, been the perpetrator of serious environmental or labour code infringement, or been delisted for cause or banned from a stock exchange).

A 2012 Yukon case, *Ross River Dena*, makes it clear that governments can change the mine claims regime. Ontario must reassert its responsibility to the public and First Nations, block claim staking that is not in the public interest, and get First Nation consent before claims are staked or renewed.³⁶

In 2001-2, the Mines, Minerals and Sustainable Development (MMSD) project was undertaken by the 23 largest mining companies in the world.³⁷ The North American part of this program was led by IISD in Winnipeg. Struggling with the relationship of sustainable development to mining, the North American division of the project developed “Seven Steps to Sustainability”³⁸ – a series of key questions to guide the evaluation of the sustainability of a mining project.

Need and Alternatives

“If there is a fundamental question underneath all others, it is the question of whether society — or the world — “needs” any given project or operation. A significant debate has emerged regarding what would constitute a full needs assessment. The debate encompasses mining and minerals but also covers all other interventions in the natural environment as well — dams, irrigation projects, highways, pipelines and even urban expansion.

The question arises because of growing concern that current human activity is undermining the capacity of future generations to meet its needs. This concern is a central driver of the sustainability/sustainable development set of concepts and the issue is very simple: why do something that is undermining the capacity of future generations?

In market economies, governments accept the proponent’s feasibility study along with their willingness to invest as a demonstration of need. If the proponent believes that a market exists for the product, need is established. For its part, the proponent will consider existing and projected demand and supply (as reflected in commodity price) and use that value to ascertain project/operation profitability. The assessment of financial feasibility and profitability is confidential and not open to public scrutiny in order to protect the competitive position of the proponent.

³⁵ <https://www.mcgill.ca/mjsdl/files/mjsdl/drake.pdf>, page 196.

³⁶ *Ross River Dena Council v. Government of Yukon*, 2012 YKCA 14 (CanLII) <http://www.canlii.org/en/yk/ykca/doc/2012/2012ykca14/2012ykca14.html>

³⁷ <https://www.iied.org/mining-minerals-sustainable-development-mmsd>

³⁸ Mining, Minerals and Sustainable Development North America. *Seven Questions to Sustainability: How to Assess the Contribution of Mining and Minerals Activities*. 2002. https://www.iisd.org/system/files/publications/mmsd_sevenquestions.pdf

Over the last several decades, a broad sense has emerged that such market-driven decision-making may not always lead to satisfactory results in terms of the resulting human and ecological implications...

However, such a sense begs some fundamental questions including: (1) how, in practice, should a needs assessment that improves on the current approach be undertaken? (2) Whose needs should drive the assessment? and (3) who should be the judge? These are profound questions of public policy for which there are no simple or widely accepted answers.”³⁹

...

Seven Questions to Sustainability in Detailed Form

1. **Engagement.** *Are processes of engagement committed to, designed and implemented that:*
 - *ensure all affected communities of interest (including vulnerable or disadvantaged sub-populations by reason of, for example, minority status, gender, ethnicity or poverty) have the opportunity to participate in the decisions that influence their own future; and*
 - *are understood, agreed upon by implicated communities of interest, and consistent with the legal, institutional and cultural characteristics of the community and country where the project or operation is located?*
2. **People.** *Will the project/operation lead directly or indirectly to maintenance of people’s well-being (preferably an improvement)?*
 - *during the life of the project/operation; and*
 - *in post-closure?*
3. **Environment.** *Will the project or operation lead directly or indirectly to the maintenance or strengthening of the integrity of biophysical systems so that they can continue in post-closure to provide the needed support for the well-being of people and other life forms?*
4. **Economy.** *Is the financial health of the project/company assured and will the project or operation contribute to the long-term viability of the local, regional and global economy in ways that will help ensure sufficiency for all and provide specific opportunities for the less advantaged?*
5. **Traditional and Non-market Activities.** *Will the project or operation contribute to the long-term viability of traditional and non-market activities in the implicated community and region?*
6. **Institutional Arrangements and Governance.** *Are the institutional arrangements and systems of governance in place that can provide certainty and confidence that:*
 - *the capacity of government, companies, communities and residents to address project or operation consequences is in place or will be built; and*

³⁹ Ibid., page 22.

- *this capacity will continue to evolve and exist through the full life-cycle including post-closure?*

7. Overall Integrated Assessment and Continuous Learning. *Has an overall evaluation been made and is a system in place for periodic re-evaluation based on:*

- *consideration of all reasonable alternative configurations at the project level (including the no-go option in the initial evaluation);*
- *consideration of all reasonable alternatives at the overarching strategic level for supplying the commodity and the services it provides for meeting society's needs;*
- *a synthesis of all the factors raised in this list of questions, leading to an overall judgment that the contribution to people and ecosystems will be net positive over the long term?*⁴⁰

The MMSD process also addressed the need to design mines for their closure, given the long-term impacts.

*“Design-for-post-closure involves a significant increase in the time horizon governing project design criteria whether the focus is social or environmental in nature. Furthermore, successful design-for-post-closure identifies a need for involvement of those affected by post-closure conditions from the earliest phases of any project. Fortunately, in the case of closure and post-closure, research and experience have produced a number of successful models. One thing emerges from all of them: “succeeding custodians” (to the extent that they are now living) need to be at the table. It is only with their presence that it is possible that their values can be factored into project implementation, that the bridging role of a mining/mineral project or operation can be realized.”*⁴¹

Closure and perpetual care of the toxic pits, tailings, and waste rock that may be left behind by a mining project have to be foremost in deciding to enable any mineral development project to proceed.

Kemess North EA

The extensive Kemess North EA process also provides a specific and directly applicable example of incorporating sustainability criteria into a mining project analysis that incorporated cultural, spiritual, social, economic and environmental criteria.⁴²

Environmental Stewardship – Is the environment adequately protected through all phases of development, construction, and operation, as well as through the legacy post-closure phase?

Economic Benefits and Costs – Does the project provide net economic benefits to the people of British Columbia and Canada?

⁴⁰ Ibid., page 12.

⁴¹ Ibid., page 16.

⁴² Kemess North Copper-Gold Mine Project Joint Review Panel Report, 2007.

Social and Cultural Benefits and Costs – Does the Project contribute to community and social well-being of all potentially affected people? Is it compatible with their cultural interests and aspirations?

Fair Distribution of Benefits and Costs – Are the benefits and costs of development fairly distributed among potentially affected people and interests?

Present versus Future Generations – Does the Project succeed in providing economic and social benefits now without compromising the ability of future generations to benefit from the environment and natural resources in the mine site area?

The intrinsic value of the boreal ecosystem

The globally-significant boreal ecosystem of the region also has intrinsic value that cannot be measured in dollars.

According to the Wildlife Conservation Society,⁴³ the region *is the largest single extant block of boreal forest free from industrial development anywhere in the world (Far North Science Panel 2010); the largest wetland complex in North America comprised of open and treed fens, bogs, and palsas (Hudson Bay Lowlands) (Abraham and Keddy 2005); and, some of the largest naturally flowing rivers remaining in the world, including the Winusk, Ekwan, Attawapiskat and Albany Rivers (Marshall and Jones 2011).*”

It is a provisioner of ecosystem services that are the basis of food security and the culture of the people who live there. The peatlands sequester and store carbon, which is significant for climate regulation.

Any attempt to monetize ecological services is problematic. We are largely ignorant about how natural processes work together. We can never find a dollar value that truly reflects the importance of the functioning of these ecosystem services to the social, spiritual and cultural life of Indigenous peoples.

*Counting Canada's Natural Capital*⁴⁴ did try to do so, and assigned an average value for all Boreal Ecosystem Services (including carbon storage and capture) at \$3771/ha/year in 2002 dollars.⁴⁵ In 2017 dollars this would have been **\$4,918/ ha/year**. The acceleration of climate change is a growing threat to the planet. The James Bay peatlands are said to capture carbon at a rate of 0.273 tonnes of carbon per hectare per year, and they store 35 billion tonnes of carbon. If the peatlands are disturbed, they release this carbon into the atmosphere.

Not only would mining projects release this carbon from peatlands, where it destroys them, it will make further sequestration impossible.

The following table provides a classification of ecosystem services, developed for TEEB (The Economics of Ecosystems and Biodiversity)⁴⁶ and quoted in Wilson (2014).⁴⁷

⁴³ Op. cit., Chetkiewicz, 2020

⁴⁴ Anielski, Mark and Sara Wilson. *Counting Canada's Natural Capital: Assessing the Real Value of Canada's Ecosystems*, 2005. <https://www.cbd.int/financial/values/canada-countcapital.pdf>

⁴⁵ Ibid, pages 58-64

⁴⁶ TEEB. <http://www.teebweb.org/>

⁴⁷ Wilson, Sara. *The Peace Dividend: Assessing the Value of Ecosystems in BC's Peace River Valley*, 2014. Table 2, the Classification of Ecosystem Services. <https://daividsuzuki.org/science-learning-centre-article/peace-dividend-assessing-economic-value-ecosystems-b-c-s-peace-river-watershed/>

TABLE 2: CLASSIFICATION OF ECOSYSTEM SERVICES

Provisioning Services

| | |
|----------------------|---|
| Food | Food, fish and meat for human consumption. |
| Water supply | Water for human consumption, irrigation and industrial use. |
| Raw materials | Timber, fuelwood, etc. |
| Genetic resources | Plant genetic diversity for crop improvement and medicinal purposes |
| Medicinal resources | Providing drugs, pharmaceuticals, tests, tools and assay organisms. |
| Ornamental resources | Resources for fashion, jewelry, handicraft, worship and decoration. |

Regulating Services

| | |
|------------------------|--|
| Gas regulation | Providing clean, breathable air, disease prevention and planet habitability. |
| Climate regulation | Providing a stable climate and preventing increased climatic variability, glacial and permafrost melt, increased storm frequency and force, and global sea rise. |
| Disturbance prevention | Preventing and mitigating natural hazards such as floods, storm surges, hurricanes, fires and droughts. |
| Soil retention | Retaining arable land, slope stability and coastal integrity. |
| Water regulation | Providing water supply for natural irrigation, drainage, groundwater recharge, river flows and navigation. |
| Biological control | Providing pest and disease control. |
| Waste treatment | Absorption of organic waste, natural water filtration and pollution reduction. |
| Soil formation | Creating soils for agricultural and ecosystems integrity. |
| Pollination | Providing pollination of wild and domestic plant species. |
| Nutrient regulation | Promoting healthy soils, and gas, climate and water regulating services. |

Habitat Services

| | |
|--------------------------|---|
| Habitat and biodiversity | Maintaining habitat for genetic and biological diversity, the basis for most other functions. |
| Nursery | Providing habitat for spawning and nesting for reproduction. |

Cultural and Amenity Services

| | |
|------------------------|---|
| Esthetic | Enjoying and appreciating the scenery, sounds and smells of nature. |
| Recreation and tourism | Experiencing outdoor activities in natural ecosystems. |
| Science and education | Learning and research activities in natural ecosystems. |
| Cultural and artistic | Experiencing nature through art, film, folklore, books, cultural symbols, architecture, religion, spiritual activities and media. |

Source: TEEB (2012). *The Economics of Ecosystems and Biodiversity: Ecological and Economic Foundations*. Edited by Pushpam Kumar. Routledge, Abingdon and New York.

Addressing the value of Indigenous relationships to the land

The classification system in the table above does not address the special spiritual and cultural relationship of Indigenous people like Anishnaabe and Aniishini to the land. It is impossible to do this in monetary terms.

Faced with the same problem when she was working with Treaty 8 First Nations in BC, Wilson's 2014 Peace River analysis provided an overview of the cultural and spiritual values of the region as they were described through a previous Traditional Land Use Study, instead of trying to monetize them.

The values included: spiritual places, burials, medicine collection areas, teaching areas, ceremonial and prayer offering places, locations associated with place names and oral histories, habitat areas, movement corridors, river crossing areas for ungulates and large carnivores (i.e., grizzly bears), winter fish habitat and spawning areas, bear dens, moose and ungulate calving areas and winter browse, temporary and permanent or regularly used camping/habitation areas, gathering places including locations used for generations, fish harvesting sites (i.e., salmon, trout, grayling, whitefish), preferred harvesting areas for berries, plant foods and wood materials, preferred drinking water sources, kill sites for moose, deer, black bear, small birds and furbearers, transportation values including trails, horse crossings and boat crossings, and water routes by canoe and motorboat.⁴⁸

Applying the WHO Determinants of Health⁴⁹ in the RA

“Just as a natural ecosystem system can be damaged or destroyed, social systems can also be damaged or destroyed if key components are undermined or removed. It is very important to know, thorough research, where the thresholds lie and what the consequences of crossing them might be... In cases where the impacts are as yet uncertain or unknown, the precautionary principle must apply... It may be possible for a community to survive, redefine itself and recover if a threshold is crossed. However, if, as in the case of the Innu of Labrador, thresholds are crossed again and again, recovery may no longer be possible.”⁵⁰

If one uses the WHO Determinants of Health to establish the baseline profile and the effects analysis, then two key questions have to be considered:

- How the environmental effects of the Project contribute to the inequitable distribution of power, money and resources?
- How the Project affects the quality of daily life and who benefits and who pays the costs?

There must be an analysis of the social and health systems of support (both formal and informal), of their fragility and strengths, who they serve and don't serve, where their funding and staff come from, and of their capacity to adapt. All communities have the infrastructure – the “social fabric” – that supports family life, which is largely informal and unpaid. A review has to take into count these un-monetized structures as well as the capacity and resiliency of day care and youth services, family violence programs, women's services, and drug and alcohol programs, or mental health programs. The social and economic

⁴⁸ Wilson. Peace Dividend, page 14.

⁴⁹ <https://www.who.int/news-room/q-a-detail/determinants-of-health>

⁵⁰ http://www.mveirb.nt.ca/upload/ref_library/SEIA_paper.pdf, page 11.

crisis faced by the First Nations in the Ring of Fire is an indication of how very fragile that social fabric is right now.

The RA has to ask: how do the baseline conditions for women and men differ, and how the mineral developments may affect them differently. Gender analysis has become a key part of most recent environmental assessments for resource extraction projects, of possible cumulative effects on gender balance and relations.

A 2006 forum and a subsequent publication for the Mackenzie Valley Impact Review Board (MVEIRB), *Issues and Recommendations for Social Impact Assessment in the Mackenzie Valley*, is still recognized as a foundational document in regional assessment when it comes to large resource development projects.⁵¹

Another important resource that sets out a generally accepted methodology for social impact analysis is *The Canadian Handbook on Health Impact Assessment, Chapter 3: Social Impact Assessment in Environmental Impact Assessment Protocols: A Social Science Perspective*,⁵² published by Health Canada. The Handbook expands on important elements with respect to determinants of health, health indicators, Indigenous health and traditional knowledge, risk perception, and greater public consideration and community action.

Community Social and Economic Development Alternatives

There are other long-term alternative community economic development paths that could be pursued for the Region, providing satisfying work and income.⁵³ Sustainable Development means considering community-based strategies and ecologically sound practices, and respecting the informal economy that exists in all resource-dependent communities. It means looking at where the dollars leak out of the community and region and where they can be captured and retained for community benefit. It means valuing conservation over growth. Although taken individually only a few of these economic activities provide the same number of jobs as the mine, taken together and adequately supported they far exceed it. Further, they are good works, that heal the earth, return money to the local communities and create opportunities for future generations to live and work in the region.

In the RA region, this could include renewable energy, different kinds of housing construction and design, innovative food sovereignty, water and waste management which work with local skills and improve health. Mocrebec researched and used a number of these ideas in building the Cree Village EcoLodge.⁵⁴ These alternatives have capital requirements and are seriously under-resourced by government and private institutions. Certainly, investment pales in comparison with the government resources poured into promoting the Ring of Fire to First Nations.

Surely using Gross Domestic Product, GDP, as a measure of economic benefit has been discredited for huge and environmentally destructive projects such as mining?

⁵¹ http://www.mveirb.nt.ca/upload/ref_library/SEIA_paper.pdf

⁵² http://hiaconnect.edu.au/old/files/hia-Volume_1.pdf

⁵³ There are a number of excellent programs that address this kinds of sustainable community economic and social development at universities across Canada, including at Algoma University in Sault Ste. Marie, with its Nordik Institute.

⁵⁴ <http://creevillage.com/our-tale/>

4. Historical and current effects of mining in the region

The RA should investigate past and current effects of mineral development in the region, including the extent and impacts of claim staking under the Ontario Mining Lands Administration System and Free Entry, exploration impacts and effects on communities of mining promotion and hype. A follow-up case study of the only recent mine in the region – the Victor Diamond Mine (2008-2019) – comparing predicted to actual outcomes and assessing its impacts is essential to a realistic RA.

Mining by its very nature is not sustainable. It depletes the very resource it depends upon, and although the products created by that resource may be purchased outside the region where they have been mined, they are rarely a source of income for those who bear the costs of that extraction. “Sustainability” for these watersheds and the people, plants and animals that live there means looking at other ways to heal and enhance their way of life and the bio-physical environment on which they depend.

No matter how carefully it is done, mining is a rapid, continuous assault on the earth.⁵⁵ The mine and its wastes get larger every day that it operates. Even when it is an underground operation, it is changing the stability of the rock and the flow of water. It is a waste management industry, where almost 100% of the rock extracted has been smashed to powder, mixed with water and reagents, and left to be managed by future generations – forever – in toxic tailings and waste rock dumps. Mines and smelters affect the air, water, and land around them, often sterilizing them for other uses.⁵⁶ They transform local economies, creating a situation where only finding more deposits can create jobs for people in the region.

Despite promises by Noront – the current owner of 85% of the deposits in the Ring of Fire – to keep all tailings underground in paste backfill and to leave no trace when the ore in the 11-year mine is mined out, it must be recognized that this small carrot-shaped mine is intended as the gateway for a stream of mineral projects, many of which will be enormous open pits with infrastructure, toxic tailings, and waste rock covering an area ten times larger than the mines and smelters in the Sudbury Basin. The roads to the mine site that are currently in federal and provincial assessment processes will make this transformation possible.

There is also no guarantee that future owners of mineral developments in the region will be as careful. Noront itself is controlled by its creditors: \$42 million (plus interest) to Franco-Nevada, a gold and silver investor which has backed almost every mining development in Canada without regard for their care for the environment, and \$8.3 million (plus interest) to Australian holding company Wyloo, a company with no real interest in the project beyond speculation.⁵⁷

In addition, the ability of mining companies to meet their obligations over time is dependent on many factors which they do not control, including fluctuating commodity prices, climate change, currency exchange rates, investor interest and natural disasters.⁵⁸

⁵⁵ See W. Scott Dunbar: *How Mining Works*, Englewood, CO: Society for Mining, Metallurgy and Exploration, 2016; Joan Kuyek: *Unearthing Justice*, Between the Lines 2019; MiningWatch Canada. *The Big Hole*:

<https://miningwatch.ca/publications/2014/12/30/big-hole-environmental-assessment-and-mining-ontario>

⁵⁶ https://www.ec.gc.ca/lcpe-cepa/documents/codes/famc-bmsr/famc-bmsr_eng.pdf

⁵⁷ Figures are from the Noront Management Discussion and Analysis, Sept. 30, 2020 page 5. At the time of the MD&A publication, the Wyloo purchase had not been completed and Resource Capital funds held the debt.

⁵⁸ See Skogstad, K., & Alahamar, A. (2016). *The Mining Industry in Northwestern Ontario: An Analysis of Recent Developments and the Strategy for Success*. <https://www.northernpolicy.ca/ringoffire>. Although promotion of the report talks of regulatory delays as a factor, the authors identify commodity price, exchange rates and markets as key factors.

Victor Diamond Mine

In the watersheds considered for the RA, here is only one recent mine – the Victor diamond mine – about 90 km upstream on the Attawapiskat River from Attawapiskat First Nation. Opening in 2008, it closed in 2019 when the diamonds were depleted. DeBeers had been exploring for diamonds in the region for about fifteen years before the mine opened.

The impacts began before the mine was built. From 2002 on, when it appeared De Beers might have found something of interest, a frenzied staking rush ensued in the area. In 2004, *Ontario Prospector* reported:

Joining De Beers in the search for diamonds in the James Bay Lowlands during the year was Pele Mountain Resources Ltd. who aggressively began exploring their 25,000-acre property during the winter. Pele commenced a diamond-drilling program on ground geophysical targets as a follow-up to kimberlite indicator mineral sampling completed during 2003. Joint venture exploration programs among Arctic Star Diamond Corp., Metalex Ventures Ltd., Dumont Nickel Inc., Big Red Diamond Company, AntOro Resources Inc. and Kel-Ex Development Ltd. also are exploring property holdings in excess of 7000 km² in size in the James Bay Low-lands... About a dozen other companies also have acquired diamond properties in the James Bay Lowlands and commenced regional geophysical and geo-chemical programs this year.⁵⁹

The staking rush had a number of serious effects on the environment and on the community of Attawapiskat. The junior companies engaged in this speculative activity create problems for the communities, municipal and Aboriginal governments that had to deal with them. It took time to review applications and monitor their activities, which was taken from other work. A staking rush can cause serious and uncontrolled damage on the land (because even speculators have to show drill results to attract investors). Anxiety and hype create divisions in a community which was already fragile. In some cases, the longer the project is tolerated, the more likely it is that the company will claim “an expropriation of its value” under some trade agreement or other pretext if they are prevented from going ahead and sue for compensation.

- In 2004, the Environmental Assessment for the Victor Diamond Project (VDP)⁶⁰ showed that the mine site would cover an area of 5,000 hectares. The open pit would be 230 metres deep and up to 950 metres wide. The mine would sit on top of a nationally significant geological feature called a karst, which has been described as the “best developed and most extensive karst topography in Ontario.” 2.5 million tonnes of ore would be processed (crushed and piled) each year. 28.7 million tonnes of waste rock would have been dug from the ground over the life of the mine and dumped in the surrounding area. De Beers only had a “conceptual” closure plan.
- The ecological footprint of the mine (the area its operations would impact), however, would be much larger. 100,000 m³ of largely saline water would be pumped out of the pit each day into the Attawapiskat River. This would be equivalent to 40 Olympic-sized swimming pools per day. The flow of the Nayshkatooyaow River would be decreased by at least 15%. Up to 260,000 hectares – an

⁵⁹ *Ontario Diamond Exploration and Development Update 2003-04*
http://www.ontarioprospectors.com/publications/ONP_Vol8_No2.pdf, page 8

⁶⁰ https://www.acee-ceaa.gc.ca/archives/pre-2003/80C30413-1/report_e.pdf

area roughly four times the size of the City of Toronto – could be affected by dewatering (the pumping of water out of the pit), which was likely to massively change water flows above and below ground throughout the area. Methyl mercury would also be released by the dewatering of the muskeg.

- Wildlife: Fish populations such as lake sturgeon, brook trout, walleye and whitefish might be harmed by the changes in water flow and water quality. The area of the mine provided critical habitat for endangered woodland caribou, and there were serious concerns that the drying out of the muskeg, noise, light and other disturbance would endanger them further. Effects were likely to be seen in migratory birds.
- Social and economic effects in Attawapiskat were expected from the upgraded winter road and the mine itself. At the time the mine was seeking to get approval from the First Nation, 12% of the company's total expenditures (labour, goods, and services) were paid out to Attawapiskat, and 40% of the community workforce of 400 was working for De Beers.
- In its Comprehensive Study Report (CSR) for the mine,⁶¹ estimated total cash inflow to Attawapiskat would be in the order of \$235 million from 2005 to 2023. However, the CSR stated: *“There are real challenges to employment of the people of Attawapiskat in jobs requiring more than limited skills.”* The more educated are already working, and the unemployed are people with low and very low educational achievement. The CSR stated: *“Uptake of direct business opportunities (by the affected community) will depend on the degree to which new businesses are started in response to project supply requirements and on the revitalization of the Attawapiskat economic development corporation. There have been recent initiatives in Attawapiskat to start joint ventures with, for example, catering, road construction, and maintenance suppliers from outside the area...The communities have a strong interest in accessing training in areas of high value to large mines, including administration and secretarial work, computers, heavy equipment operation and trades.*
- The CSR said that the average wage from VDP would be \$40,000. Average income in Attawapiskat was \$17,000. De Beers estimated that the total increase in community wages would be \$3-4 million annually. The increase to average household income and the economy as a whole, they said, would be in the order of 26 to 35%.
- The CSR admitted that *“Increased income can have negative effects at the individual and family level, and these can spill over into negative community effects.”* VDP may draw home some of the almost 45% of Attawapiskat First Nation members that live off reserve. These returnees may obtain jobs instead of the on-reserve population, and put pressure on supplies and services, particularly housing. They might cause *“inflation, contribute to drug and alcohol problems, undermine traditional values, compromise public health and security”*. They might also create demands for increased social and recreational services.
- *“At the end of the three year closure phase, all expenditures, with the exception of limited employment – related to environmental aspects and monitoring, will end. This has the potential to cause economic and associated social dislocation.”*

⁶¹ It is in Appendix F of the Comprehensive Study report, that the socio-economic effects on Attawapiskat are described, pages 606-616 https://www.acee-ceaa.gc.ca/archives/pre-2003/80C30413-1/report_e.pdf

- **The only possibility for future economic development foreseen by DeBeers was more mines.**
There are at least 8 other kimberlites in the region in the De Beers portfolio. *“The Proponent has stated that while these other kimberlites have not been fully evaluated, there is reasonable potential for at least a few of these other kimberlites to become mineable, and that mining these kimberlites could extend the life of the project, perhaps by as much as 2 to 4 years, as a best guess. Further, none of these other kimberlites, as currently understood, would be capable of supporting a mine on their own, because of their small size.”*
- As we now know, none of these went ahead.
- In 2020, De Beers announced that a 102 carat diamond worth \$23 million had just been pulled from the mine in 2018 before it closed.⁶²
- During the mine’s operation, Attawapiskat First Nation twice declared a housing emergency, continued to fight for a school to replace one contaminated with diesel fuel and mould, and dealt with sewage backups and a number of instances of flooding. Currently, De Beers refuses to honour closure plan terms about garbage disposal.

The RA must include a comprehensive follow-up case study on the ecological/social and cultural effects of the Victor mine (2008-2019) that compares predicted effects to actual, post-mine. The questions to be explored include the following:

- What were the impacts of exploration on the land and communities before and during the mine?
- A gender analysis of the exploration rush and the mine impacts.
- How did the eventual footprint of the mine and ice road compare to what was approved in the EA, including: size of the pit, tailings, impoundment, processed kimberlite pile, garbage disposal, winter road, power consumption, infrastructure?
- What were the cumulative environmental effects with regard to water (mercury and other contaminants, water flows, drawdown of water table)?
- What were the impacts on wildlife and fish? To the community access to country foods?
- To what extent did Attawapiskat benefit from the mine: income, jobs, contract opportunities?
- What has happened to these benefits once the mine closed?
- What was the impact on community infrastructure in Attawapiskat: housing, schooling, water and sewer, transportation, integrity of the social fabric?
- What were the effects on Attawapiskat First Nation treaty rights? Governance? Leadership retention? Internal conflicts? Relationships to Ontario and Canada? What did negotiations with the company and government cost the First Nation?
- What effects were there on health (using the WHO Determinants of Health model) including suicides, drug addiction, violence, and gender-based analysis?
- Was there heightened income disparity in the community?

⁶² <https://www.cbc.ca/news/business/diamond-auction-1.5723379>

- Analysis of the consequences of the loss of mine incomes and contracts post closure?
- How did the contracts with the community work out?
- What were the actual tax and royalty revenues to Canada and Ontario from the mine? In 2004, the Centre for Spatial Economics made a number of predictions about the contribution of the Victor Diamond Mine to Canada, Ontario and Attawapiskat, which were used to justify the approval of the mine? Were any of these borne out?⁶³
- Is the closure plan as submitted being effectively implemented?
- What provisions are there for post closure stewardship?

Such a case study will provide the recent, the on-the-ground information required to properly assess the realistic implications of mines in the Ring of Fire area. The follow-up program must be a participatory, inclusive and transparent process that involves the First Nations, and vulnerable populations in other affected local communities such as Timmins.

Understanding current impacts of mineral development on the region

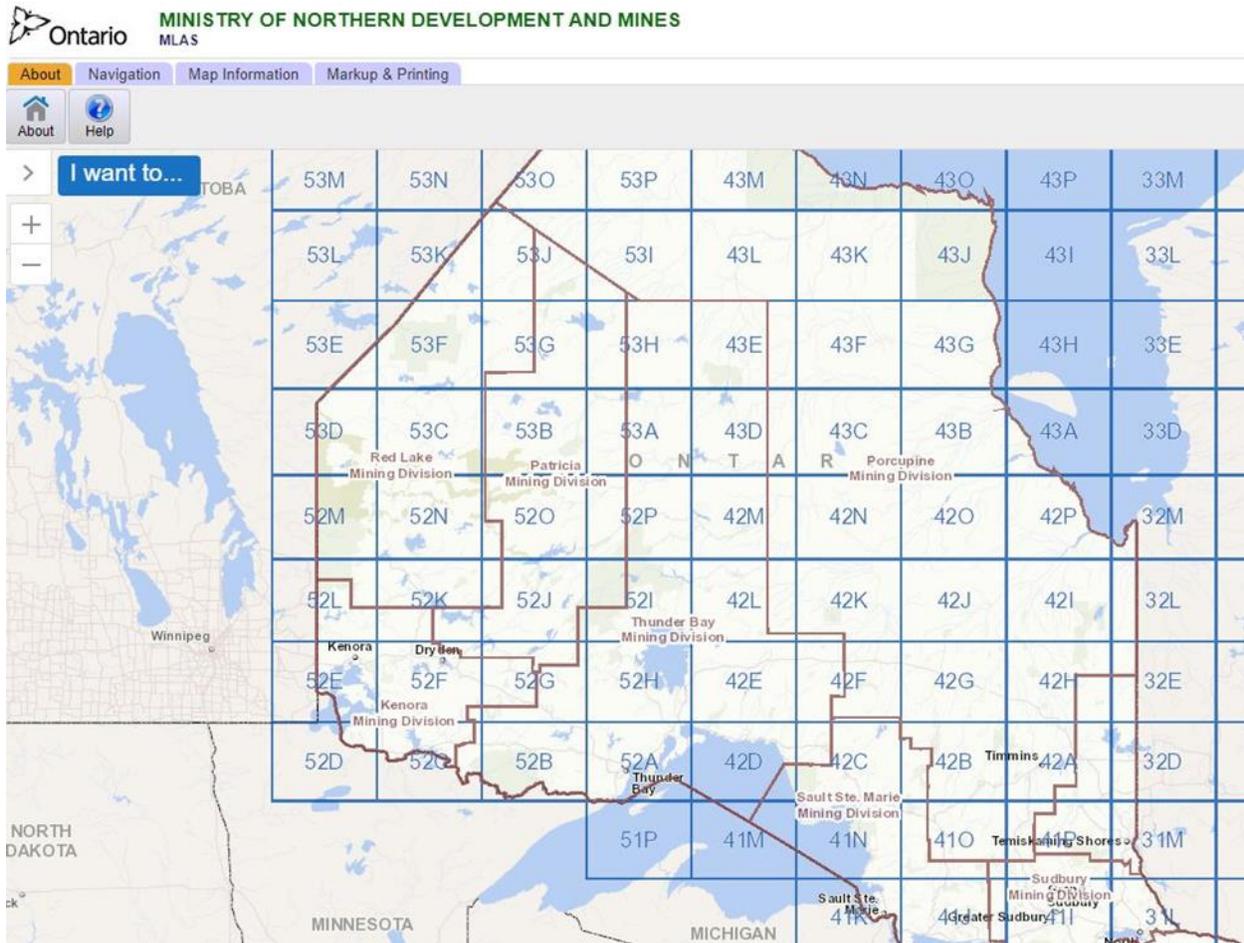
In the Ring of Fire area, the current impacts from claim staking, prospecting and exploration are already serious and need to be examined in the RA.

In April 2018, Ontario moved all claim staking to digital and map staking. The MLAS program divided the province into 5.2 million predefined cells. Cells are 17.7 hectares in north and 24 hectares in south. Fees for staking are \$50 per claim cell, and the holder has to complete \$400 of work each year on the claim to retain it.⁶⁴ The work requirement has been delayed this year because of COVID.⁶⁵

⁶³Centre for Spatial Economics, *Economic Impact Study In Relation To Feasibility Work On The Victor Diamond Project (Revised Final Report)*, submitted to AMEC, then to De Beers Canada Exploration, then as an addendum to the EIS, January 2004.

⁶⁴<https://www.mndm.gov.on.ca/en/mines-and-minerals/mining-act/mining-lands-administration>

⁶⁵ Ibid.



Claim staking takes place under a *free entry* tenure system. In Ontario, as in most jurisdictions, surface and sub-surface rights to land are separated from each other, with subsurface rights held by the “Crown”. Surface rights holders’ interests are seen as secondary to mineral rights. Most “Crown land” is in fact Indigenous territory, and the rights are likely to be in dispute. Staking is not allowed on land belonging to Indian reserves or on lands to which First Nations, Metis or Inuit hold a title that includes mineral rights. However, under the federal “Indian Mining Regulations”, there is a process by which the Department of Indigenous Affairs (with permission from the Band Council) can open reserve lands for exploration.⁶⁶

For Indigenous peoples, the staking of the claim is the moment when the third-party interest is established on their territory, and is thereafter treated as a “stakeholder.” The Minister has the right to withdraw lands from staking, however the Ontario government claims it has no discretion to refuse claims unless they have been expressly withdrawn.⁶⁷

The free entry system is based upon the following premises:

⁶⁶ http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._956/index.html

⁶⁷ Drake, Karen. The Trials and Tribulations of Ontario’s *Mining Act*: The Duty to Consult and Anishinaabek Law. <https://www.mcgill.ca/mjsdl/files/mjsdl/drake.pdf> . Page 190

- All “Crown” lands are open for staking and mineral exploration unless they are expressly excluded or withdrawn by law.
- The person that stakes a claim has the right to develop a mine on the claim or to sell it to another of his choosing.
- Mineral tenures are appropriately granted on a “first come/first served” basis.
- Mineral potential is so valuable that it warrants leaving the staked area essentially unregulated and potentially unusable for other purposes.⁶⁸

After having staked the mineral claim, the prospector has exclusive right to exploit the minerals beneath the surface of the claim area, even if they damage property on the surface. Permits are required for exploration, and the Act does say that “consultation” with Indigenous peoples is required.

Ontario says it does not have “discretion” to refuse exploration permits, only to place conditions on it. However, in July 2018, an exploration permit was quashed by the court when it found that the Ontario government failed to properly consult the Eabametoong First Nation before Landore Resources Canada began early exploration.⁶⁹ A similar discretion argument in the Yukon was successfully challenged by the Ross River Dena in 2012.⁷⁰ The Supreme Court of Canada refused to hear the case when the Yukon government appealed.

The free entry system creates an expectation on the part of the industry, and a practice on the part of governments, that all mining permits will be granted.

In most cases, mineral claims and leases are transferred and sold between companies – sometimes for millions of dollars – without government approval and without the consent of the Indigenous governments involved.

In areas where there are staking rushes, like the Ring of Fire, the impacts on communities can be enormous, creating conflicts about whether the project should proceed or not, overwhelming Band Councils and others with demands for consultation and regulatory requests, and involving an overstretched leadership in endless negotiations with companies and governments. The impacts on the environment are also substantial.

- Noise from helicopter fly-overs, drill rigs, ATVs, and 4x4s is known to disrupt animals, migratory birds, and people in the area.⁷¹
- Exploration will also include ground-work to remove the *overburden* to expose any mineral bearing rocks below. The overburden includes the soils and subsoils, fungi, plants and trees, as

⁶⁸ Campbell, Karen “Undermining Our Future: How Mining’s Privileged Access to Land Harms People and the Environment”, West Coast Environmental Law Association, January 2004

⁶⁹ <https://www.cbc.ca/news/Indigenous/eabametoong-ring-of-fire-landore-permit-1.4750681>

⁷⁰ *Ross River Dena Council v. Government of Yukon*, 2012 YKCA 14 (CanLII)

<http://www.canlii.org/en/yk/ykca/doc/2012/2012ykca14/2012ykca14.html>

⁷¹ Environmental Mining Council of B.C. Mining in Remote Areas. 2001. <https://www.fairmining.ca/wp-content/uploads/2013/03/Mining-in-Remote-Areas.pdf>

well as the animals and the people who depend on them. Trenching, power washing and/or stripping remove the soil and vegetation down to bedrock.⁷²

If the claim continues to be promising, the next stage of exploration will involve drilling core samples, usually in a grid, and the results will be analyzed to create a three-dimensional map of the ore body. The drill cores will be stored at the mine site on wooden racks. Environmental concerns related to drilling include spills or leaks of fuels, oils and drilling fluids into soils, or into local water bodies.⁷³ Storage of the drill cores can cause problems: physical hazards as well as environmental impacts like acid mine drainage, metal leaching, or radiation. Even when exploring for other minerals, thorium and uranium may be present and the release of radon gas to surface is a concern.⁷⁴

The equipment for exploration has to be brought to the site. This may require ATV trails, roads and stream crossings, and even airstrips, as well as an exploration camp for workers with its attendant problems. The impacts of exploration are spread over a vast area. When there is a “staking rush”, the effects are multiplied with as many as 40 companies exploring in nearby areas.

Advanced exploration investigates the continuity of the mineralized zone, and provides information about rock stability and structure and possible water flows.⁷⁵ In effect, this always involves the removal of large volumes of ore. Bulk samples range from one tonne to 1000 tonnes or more. Test milling procedures may be done in laboratories using small samples, in test plants available in certain localities, or in pilot mills erected to mill pre-commercial quantities, such as 100 tonnes per day. It may also need a waste rock dump and a tailings impoundment. Under Ontario’s mining laws, bulk sampling of over 1,000 tonnes makes an exploration project an *Advanced Exploration Project*, with requirements to develop and file a *closure plan* with the Ministry of Northern Development and Mines and provide public notice.⁷⁶ Before undertaking advanced exploration, a company will usually convert their claims into *mine leases*. Leases are for 21 years. Again, Ontario claims it does not have discretion to decide whether it will issue the lease.

To build a mine in Ontario, under Sec 140-141 and regulation 240/00, a project proceeds through advanced exploration, development and production with the submission of a Closure Plan and Financial Assurance (certified by the company), and Certificates of Approval (COA) from the Ministry of the Environment for taking water, for discharges to water, air and for waste disposal.

All of these activities – and associated impacts – are part of a company deciding if it can go ahead with an operating mine, and all of this activity will take place prior to any environmental review of the mine proposal. By this time, the process seems inexorable.

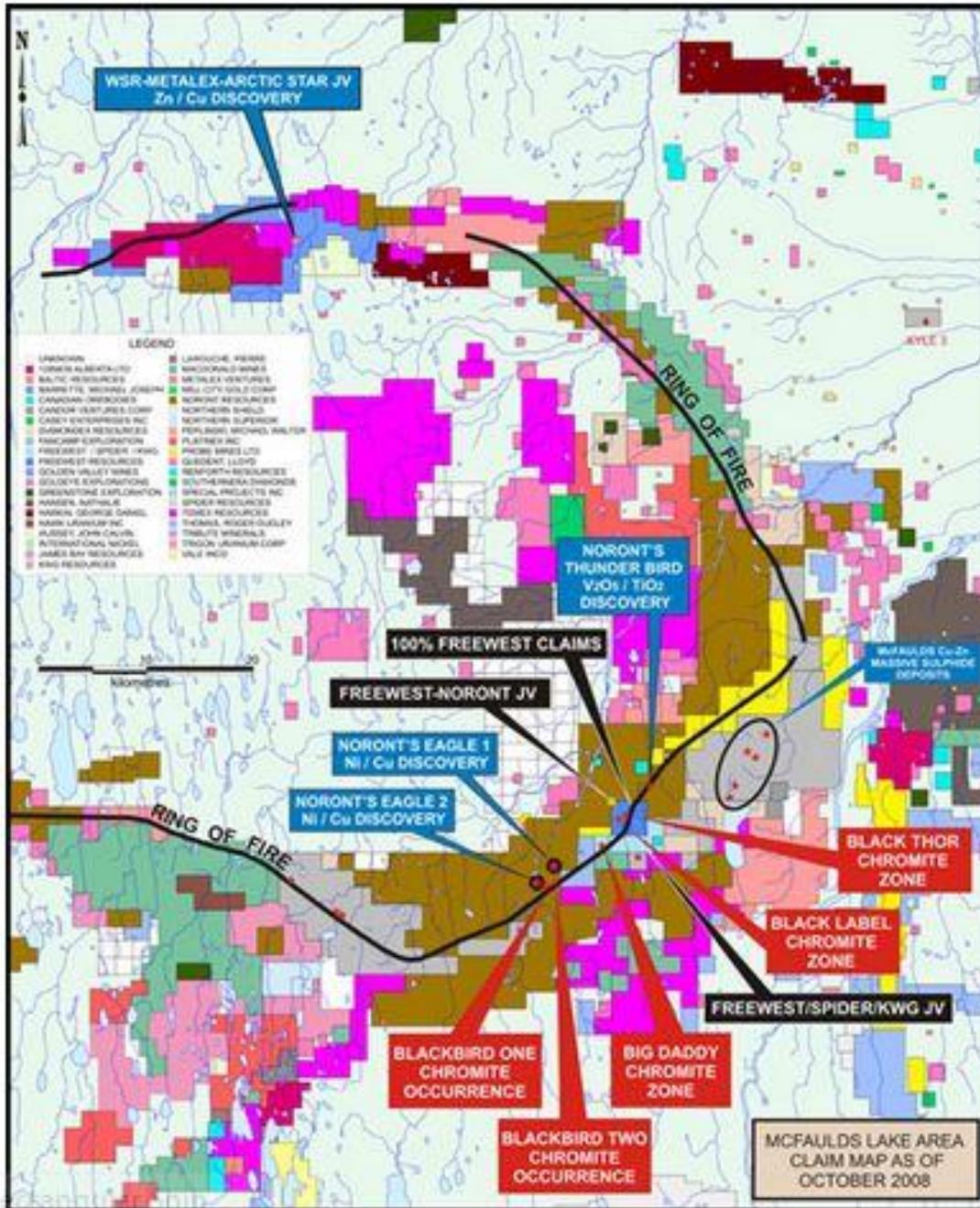
⁷² Environmental Mining Council of British Columbia, *Environmental Mining Primer: A Citizens Guide to Issues, Impacts and Options in Mineral Development*. 2001. <https://www.fairmining.ca/wp-content/uploads/2013/03/Mining-in-Remote-Areas.pdf>

⁷³ Environmental Mining Council of BC, *Mining in Remote Areas*. 2001

⁷⁴ For good information on radiation and health, see: Dewar, Dale and Florian Oelck. *From Hiroshima to Fukushima to You: A Primer on Radiation and Health*. Between the Lines. Toronto 2014.

⁷⁵ Dunbar, op. cit

⁷⁶ See Ontario’s Mining Act sec 3. (1) For the purposes of Part VII of the Act and this Regulation, “advanced exploration....”



The Ring of Fire has been the object of a staking rush since 2003. Over 11,000 claims have been staked in the Region, belonging to 19 different companies. These claims and leases have changed hands a number of times, and now 85% belong to Noront. The social and environmental impacts have already been substantial. Indigenous governments are overwhelmed by requests for “consultation”.

The Ontario and federal governments have invested substantial resources in the project. Ontarians for a Just Accountable Mineral Strategy (OJAMS)⁷⁷ estimated that direct subsidies between 2010 and 2016 amounted to:

- Federal government:
 - \$15.98 million through Strategic Partnerships Initiative (renewed);
 - Comprehensive Community Planning: \$700,000;
- Ontario government:
 - over \$13.2 million in operating expenditures from the Ring of Fire Secretariat;
 - distributed \$15.8 million in transfer payments to Aboriginal communities for capacity building (largely for paying Mining Advisors to promote the Ring of Fire)

Communities are divided on whether to proceed with the mineral developments. Some community members have been hired by the various companies or by government programs to promote the project. The effects of these transfers need to be studied by the RA.

There have also been impacts in fly-out communities like Timmins, including housing shortages. In Sudbury and Sault Ste. Marie, concerns and hopes about the ferrochrome smelter have taken up huge amounts of time and energy that could have been used productively elsewhere.

We suggest the following questions:

- What are the cumulative effects of current mining claims and exploration on the environment and the communities in the region?
- How many claims and leases have been issued? What are the cumulative work requirements on them? What is the territory they cover?
- How effectively are they monitored by the government? How effective has reclamation of exploration sites been?
- What has been the impact of the Free Entry system on Indigenous rights and governance in the region? What is the relationship of Free Entry to Treaty 9 rights and responsibilities?
- How many exploration permits have been issued? To what extent do they reflect the honour of the Crown? What has been the ability of affected communities to review them and interact with them? How has internal conflict been exacerbated?
- Given that only 1 in 10,000 claims becomes a mine, how realistic are the mining companies' promotions to investors?
- What is the impact of the road EAs on the other communities?
- How much money is being invested by governments in promoting the Ring of Fire to First Nations in the region, relative to investment in other economic opportunities?
- What are the lost opportunity costs?

⁷⁷ <http://www.ojams.ca/the-ring-of-fire/>

5. The Ring of Fire scenarios

The Regional EA will have to consider many scenarios for possible Ring of Fire development, including a no mining option.

This section of our submission suggests a matrix for scenario development and is organized as stated below. Two appendices provide summary outlines of the Noront Eagle's Nest and Blackbird and the Cliffs projects.

- 1) Factors to be considered that can affect the outcome of any of the scenarios
- 2) Some anticipated development scenarios for the Ring of Fire that should be considered.
- 3) Some questions to ask in evaluating the scenarios for realization and effects

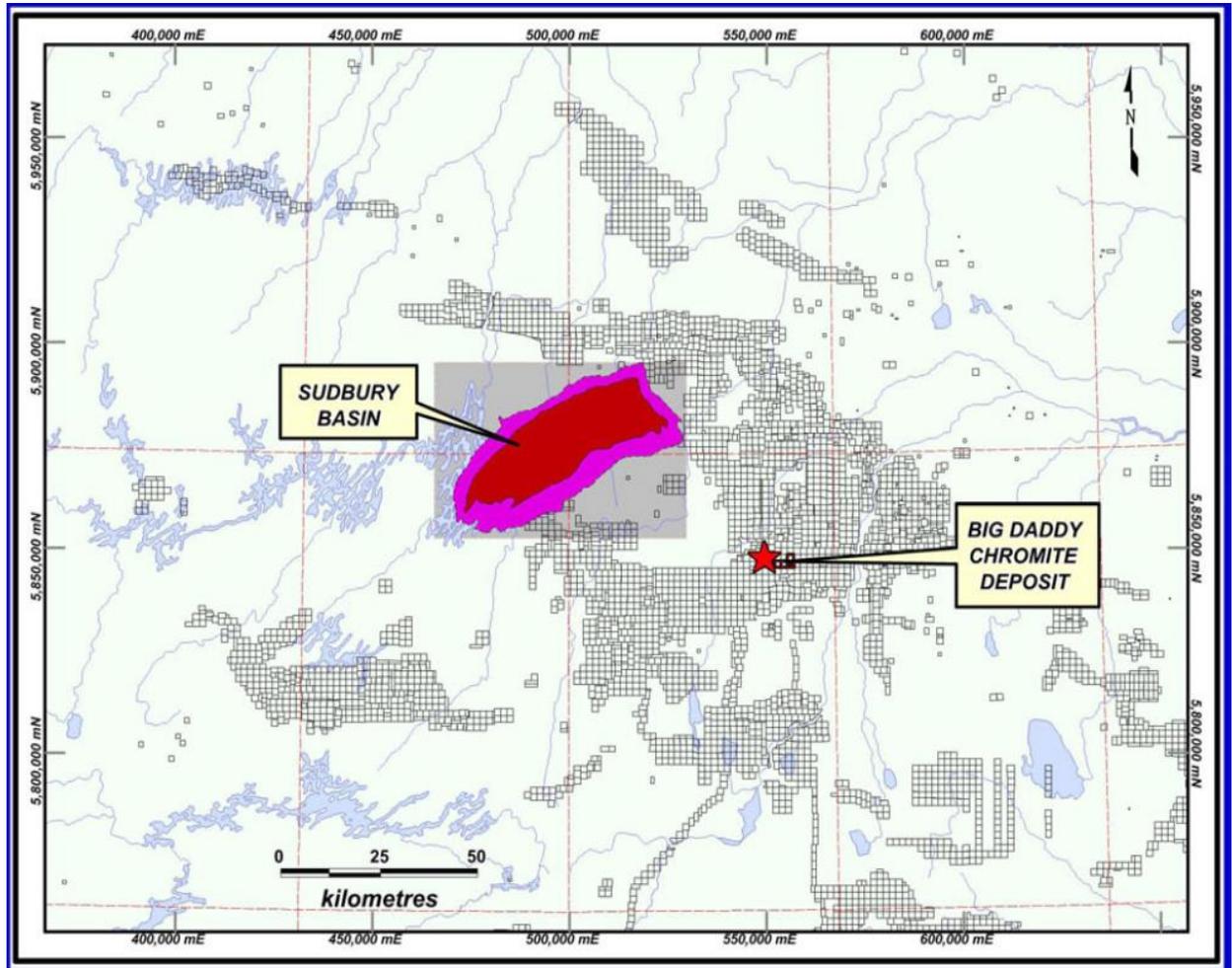
Factors to be considered that can affect the outcome of any of the scenarios:

- Global warming and its concomitant disasters are likely to affect the scenarios at all stages: wildfires such as those in Siberia in 2020 or Alberta in 2018, floods, melting permafrost, and rising water levels.
- If support were provided to enable Indigenous people and their communities in the Region to reclaim their power, strength and health in the future, they might be in a position to contemplate, control, monitor, and/or participate in mining development.⁷⁸
- As we have learned from COVID (and Indigenous peoples have known since colonization), pandemics are a concern, and are likely to increase over the next decades.
- Mining projects are susceptible to exchange rates, commodity and supply prices, markets and investment.
- Mines, smelters, and roads have different impacts at different stages: exploration, construction and development, operations, closure, and post-closure. Mining is a waste management industry with long term consequences.
- Mining itself will be increasingly automated, employing fewer and fewer people.
- Every one of these scenarios depends on a willingness of governments to invest billions of dollars in funding, subsidies and tax incentives. This requires political will.
- Civil unrest may increase globally over the next decades, and with it, chaos in markets, transportation and governance.
- Each of the scenarios will shift the balance of power and incomes in the affected communities and within the mineral development industry. How will this affect vulnerable people? Who will benefit?
- What, if any, are the international trade and investment agreement implications for these scenarios?

Some scenarios for anticipated development in the Ring of Fire

⁷⁸ In the areas of some of the modern treaties (Akaicho, Makivik), Indigenous peoples have had some ability to control mineral development on their lands.

Claims staked in the Ring of Fire cover an enormous area: ten times that of the Sudbury Basin. An early image of the region taken by KWG compares the size of the two (shown below). By 2020, the claims in the region covered a much larger area.



The scenarios suggested below cover a range of possibilities.

1) The three roads with Webeque and Marten Falls⁷⁹ as proponents get built – but no mines.

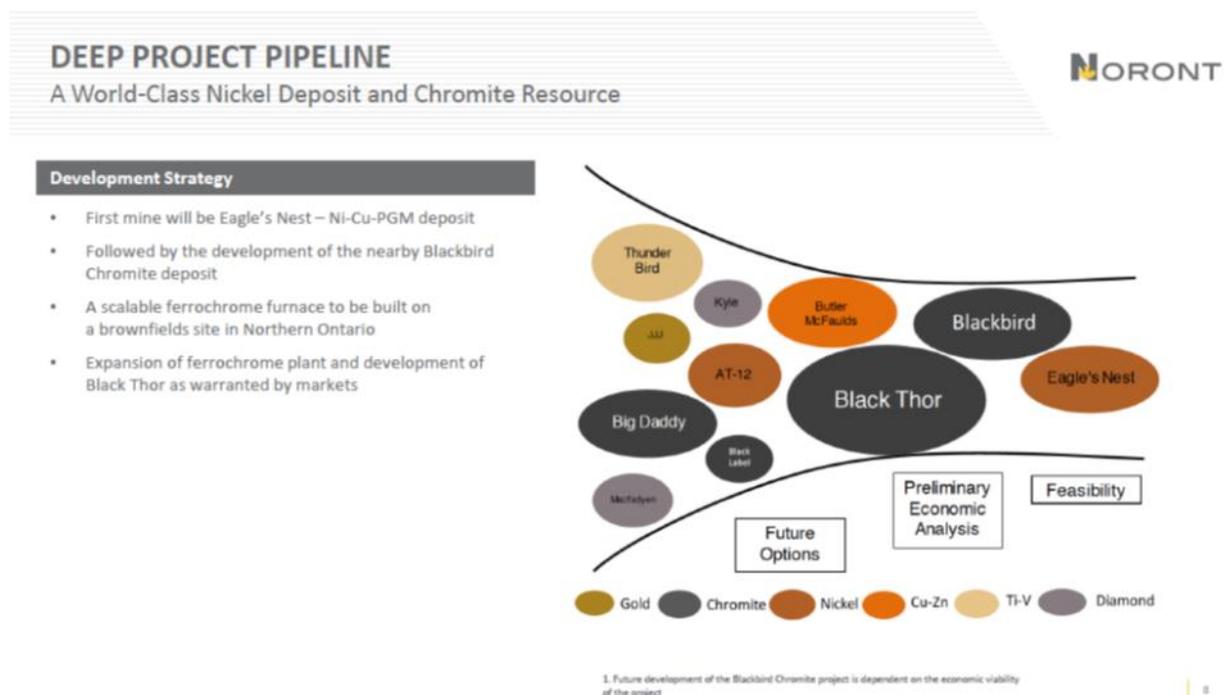
Even after they have their final engineering studies done, have confirmed financing (likely well over \$2 billion), and are approved by regulators (which might take 3 years or more), it will be anywhere from 3-10 years more before the road from Nakina is finished.⁸⁰ This also assumes that adequate aggregate can be found, that climate chaos effects (melting permafrost, fire, flood) have not made the roads impassable, and that they continue to have funding from governments and social licence from affected communities. Road construction and provisioning the workers camps may provide employment to First Nations in the region. However, the community is reliant on outside experts to engineer the roads. The roads and borrow pits for aggregate will be very

⁷⁹ Reference is to the filed project description on the IAA registry.

⁸⁰ AMEC, Marten Falls community access road project description.

disruptive to the ecology of the area. The roads will also increase mineral exploration in the area (as well as forestry, demands for power lines, and wildlife harvesting by non-Indigenous people).

- 2) **The no-mining option.** Funding is provided for communities to deal with their current social crisis. The communities in the watersheds are able to work with Indigenous knowledge keepers and community economic development experts to learn about and create closed-loop, sustainable economy plans, which include food sovereignty and wildlife management, rebuilding housing, water, sewage and garbage disposal systems using green technologies, renewable energy systems, and culturally-relevant health and education networks. This option requires substantial capital investment from governments and the private sector and buy-in from programs like Algoma University's Community Economic and Social Development program. However, it has a positive contribution to sustainability and would cost governments less than any of the mining options below.
- 3) **The Eagle's Nest Mine is able to proceed.** The construction of the mine might begin once the Webequie eastern road is built as Noront could fly construction equipment in or bring it in on winter roads. Construction of an underground mine like Eagle's Nest is very expensive and will require a much greater investment than Noront currently enjoys. The mine likely cannot go into production until it has the north-south 334 km road, as they will be unable to bring in supplies for the mill or the concentrates to Sudbury or wherever else they plan to send them. The company says that the timing on Eagle's Nest is probably three years for construction and then 10.2 years of operation. The impacts from the Eagle's Nest Mine itself are likely to be quite contained because of the plan to store tailings as paste backfill underground. **However, it is a Trojan Horse for the other mining developments.** Noront uses the following image of the "project pipeline" in its corporate presentations:



It should be noted that the Noront feasibility study is now out of date. The other question that needs to be addressed is what happens if only Eagle's Nest ends up being developed, and the other proposed mines don't?

- 4) A ferro-chrome smelter is built.** The Cliffs Chromite project description made it clear that the mining of chromium in the region cannot proceed without a ferro-chrome smelter, as chromium is too bulky to economically ship long distances. Neither could the project proceed without either a north-south access road or rail line. Electricity requirements for the production of ferrochromium are very high, often coming to more than 1/3 of the cost of production. The furnaces are so energy intensive they often require the building of new dedicated power plants. The operation of a ferrochrome smelter is not possible without a substantial government subsidy for electricity. (In 2014, KWG CEO Moe Lavigne pegged an acceptable power cost at 4 cents/kWh⁸¹). The emissions from such a smelter are likely to include hexavalent chromium. The smelter has been opposed in every place it has been proposed, and has now settled on Sault Ste Marie. The community there is strongly opposed to the smelter. Unless the smelter is built, the chromium mines cannot proceed. Not only will the smelter proponent need social licence, but it will need financing, markets, and regulatory approval (there is currently no impact assessment requirement for smelters federally or provincially). This process is likely to take at least ten years.
- 5) Some chromite mines proceed as the roads and smelter are now substantially under construction or built.** Noront and other companies currently exploring in the Ring of Fire believe that chromite is the most significant metal in the area, and have a number of chromite mines under consideration. To date, there are no finished pre-feasibility or feasibility studies on chromite mines. Most of these are likely to be open pit mines. One (Blackbird) is thought to be a block cave mine (which is similar to an open pit at the end of mine life). Noront projects that Blackbird – which is only 1 km from Eagle's Nest – could be built and use the same infrastructure. That remains to be seen. However, at the end of its mine life, Blackbird is likely to be an open pit mine. There has been no feasibility study for this mine. Other chromite deposits in the area would likely be in advanced exploration or pre-feasibility stage, with a considerable amount of speculation and acquisitions. The environmental and social impacts will be extensive: man-camps, access roads, exploration impacts, and construction all over the region. Depending on the price of chromium and the success of the smelter, the expansion will be dramatic and enormous. The Marten Falls road is only built to handle 400 trips per day, and is unlikely to be able to deal with this demand, so pressure will escalate to upgrade the road or build a rail line. Demands for electrical transmission lines will also increase. How long the chromite mines will last depends on commodity prices and markets, more than anything else. They are likely to face boom and bust economic conditions.
- 6) Some of the other mines (such as McFaulds Lake copper-zinc) will be approved, financed and built.** Only one of these has even a pre-feasibility study, and that one only for inferred resources, so they are completely speculative at this point. However, once there is a road, it may become

⁸¹ Northern Ontario Business. *Power, First Nation Cooperation Key to developing Ring of Fire mine.* Northern Ontario Business, April 19, 2010.

possible to ship out copper and zinc concentrates (provided there is capacity on the road). Gold could be transported by helicopter. However, depending on mineral prices and costs of production, it is likely that all of these will come on stream within a few years of each other, as is the case with gold mine projects in 2020-2021. They might happen concurrently with chromite mines. Most will be mined out within 10-15 years, and will be vulnerable to commodity price and exchange rates.

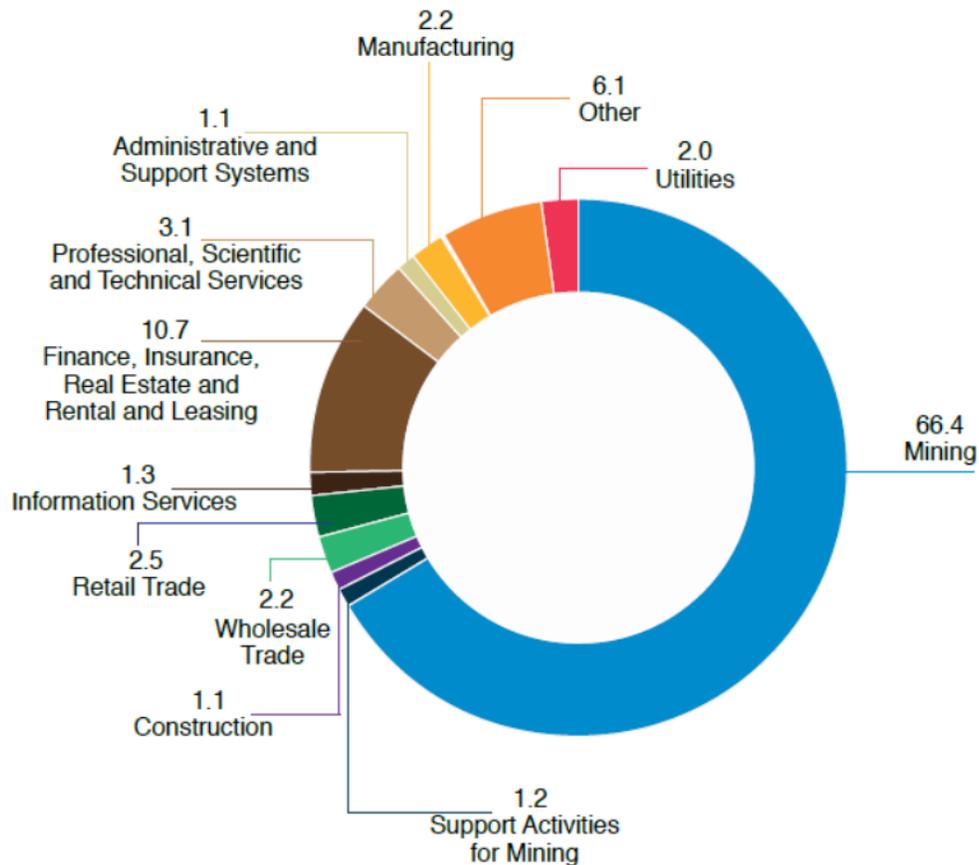
- 7) Worker camps will be expanding all over the region,** and the pressure on Webequie and Marten Falls will increase. The Ring of Fire companies have already speculated about building a town, and that may be the outcome. If so, it will likely be only an enlarged mining camp. The town will have its own impacts. What that means can probably be found by looking at Fort McMurray.

Evaluating these scenarios for realization and effects

The Terms of Reference needs to ask the following questions about each of the scenarios:

- How likely is the scenario likely to proceed? Is it feasible given the issues raised at the beginning of this section?
- What is the anticipated pace and scale of these developments?
- What happens when the project (s) closes or if it becomes uneconomic?
- What are the anticipated impacts on the bio-physical components of the region: water, wildlife, air?
- To what extent will the anticipated development contribute to greenhouse gases in terms of destruction of forest and peatlands (carbon sequestration and storage) and its own emissions (diesel, transportation)?
- What will the impacts be on the Indigenous communities in the region and downstream?
 - Rights, title and sovereignty
 - Livelihoods, food sovereignty
 - Impoverishment, shelter, water and sewage, energy, transportation
 - Culture, language, education
 - Power balance and inequity
- For affected communities such as Sault Ste. Marie, fly-out communities, those on the highway corridors, and those like Sudbury where the nickel concentrates may be smelted, what will be the impacts on health?
- Who will benefit from the scenario? How will the benefits be distributed?
- Does the scenario contribute to sustainability? How?

Below, for reference, is a graphic developed by the Ontario Chamber of Commerce showing how they think the benefits from a fully operational Ring of Fire mining camp will be distributed.⁸² Please note that benefits to Indigenous peoples are not even mentioned.

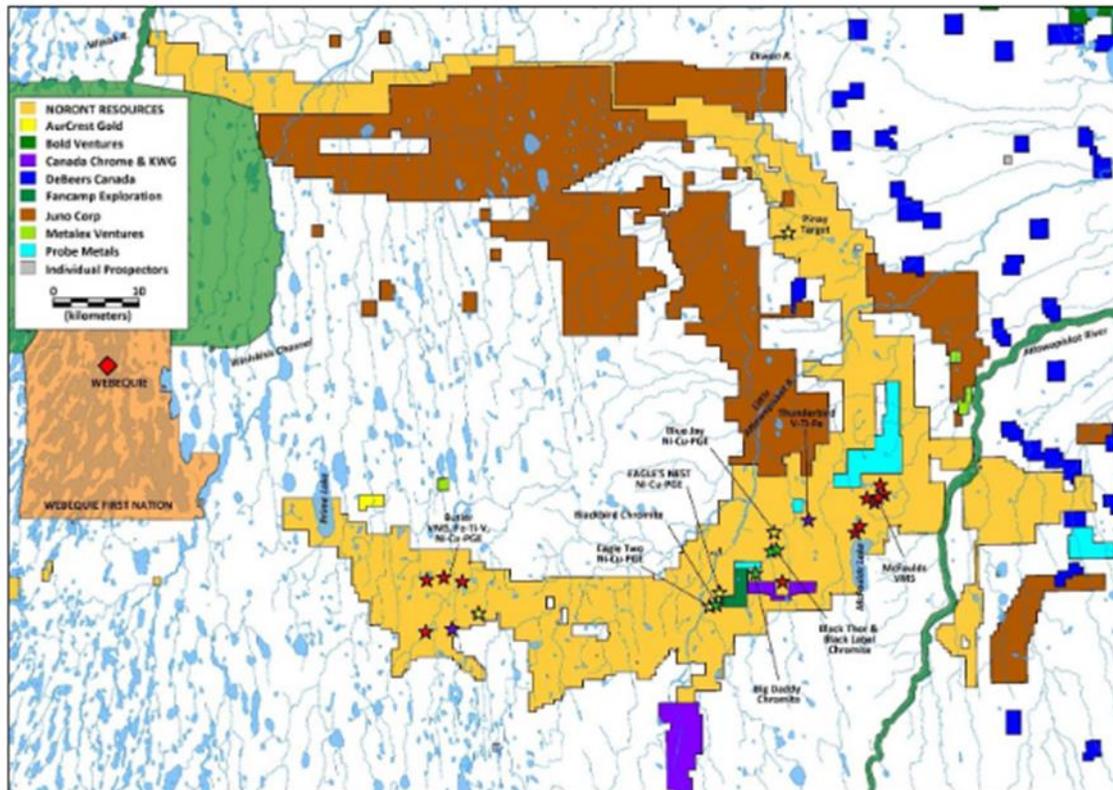


⁸² Ontario Chamber of Commerce. Beneath the Surface: Uncovering the Economic Potential of Ontario's Ring of Fire. (No date.) https://occ.ca/wp-content/uploads/Beneath_the_Surface_web-1.pdf

Appendix A.

Summary of the Noront Eagle's Nest Mine from the company filings.

Figure 1: Noront Ring of Fire Claim Map



Noront discovered the Eagle's Nest Magmatic massive sulphide deposit in 2007. In 2012, it purchased the Cliff's chromite claims, and by 2020, "Noront now holds interest, mineral, and exploration rights to approximately 156,352 hectares of ground in Ontario"⁸³

As of September 30, 2020, Noront had two loan facilities; one to Resource Capital Funds for \$18.3 million (secured by Eagle's Nest) and one to Franco Nevada for \$42 million (the loan is to a subsidiary – Noronto Mukutei – and is secured by some of the chromite deposits). The company had a shareholder deficit of \$39.94 million. After sale of the Resource Capital Funds debt to Wyloo Corporation of Australia in December 2020, Noront had 419 million shares outstanding. Although the debt amounts may seem very high to most people, they are small change to these enormous and wealthy investors.⁸⁴ Wyloo now controls 22% of Noront.

⁸³ Noront MD&A, September 30, 2020, page 5

⁸⁴ In January 2021, Franco-Nevada reports approximately USD \$24 billion in assets (Jan 2021- corporate presentation https://s21.q4cdn.com/700333554/files/doc_downloads/2021/01/Franco-Nevada-January-Presentation.pdf); and Wyloo Metals Ltd is a company of Tattarang Corporation, a holding company for the family businesses of the Andrew Forrest family in

The 2012 Technical Report describes the site:

The Eagle’s Nest deposit is a sub-vertically dipping body of disseminated, net-textured and massive magmatic sulphide (pyrrhotite, pentlandite, chalcopyrite, magnetite) in a pipe-like form approximately 200 m long, up to several tens of metres thick, and at least 1,650 m deep.

**Table 1.2
Table of Mineral Reserves**

| Category | Tonnes | Ni (%) | Cu (%) | Pt (g/t) | Pd (g/t) | Au (g/t) |
|-----------------------------------|-------------------|-------------|-------------|-------------|-------------|-------------|
| Proven | 5,264,000 | 2.02 | 1.04 | 1.01 | 3.45 | 0.19 |
| Probable | 5,867,000 | 1.38 | 0.72 | 0.78 | 2.76 | 0.18 |
| Total Proven plus Probable | 11,131,000 | 1.68 | 0.87 | 0.89 | 3.09 | 0.18 |

1) At present Micon is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing or political issues which would adversely affect the mineral reserve estimated above. However, there is no assurance that Noront will be successful in obtaining any or all of the requisite consents, permits or approvals, regulatory or otherwise, for the project. As regards the reserve parameters, higher mining dilutions, poor metallurgical recoveries and low metal prices could individually and/or collectively impact negatively on the reserve estimates.

The closest all-season accessible community to the McFaulds Lake project area is Nakina, 300 km to the south, where there is a paved airstrip, in addition to all weather road and railroad access.

The Feasibility Study considers extraction of the measured and indicated resources described using bulk underground stoping techniques. The project will commence with the mining of aggregate from underground development.

The host rock is a strong to very strong granodiorite. The designs assume the underground location of many facilities, including mineral processing, utilizing the competent host rock around the deposit. Underground access will be by twin ramps from surface to the processing plant level, followed by continuing twin ramps to the lower production levels. The process plant will be constructed underground 175 m below surface on 175 m L (mine levels measured from surface).

The Eagle’s Nest deposit will be mined using highly automated underground mining techniques and paste tailings will be used to fill mined voids. Aggregate stopes will be used for additional storage of tailings.

The Eagle Nest mine will utilize a mining method referred to as “slot/slash”, or longhole mining. The method entails driving drifts transversely across the orebody.

The project site is divided into four main areas, the portal area, the camp area, the explosive storage area and the airstrip. The project site is located in a region consisting primarily of muskeg where the water table is close to surface. To the extent possible, the footprint of facilities has been minimized and structures have been located the sandy, more stable soils associated with groves of

Australia. Forbes estimates his real time net worth at \$21 billion. <https://www.forbes.com/profile/andrew-forrest/?sh=29ab14f015d6> (January 18, 2021)

poplar trees. Site preparation for the facilities will require minimal cut of earthworks. Each structure will be founded on a single pad built on the surface of the muskeg.

The camp, explosive storage area and airstrip range from 1.5 km to 3 km from the portal area and all areas are connected by site roads with an internal network of roads at each location. Site roads will be 8 m in width, and will be constructed using brush mat and geotextile design. Located adjacent the process building will be a power plant to service the electrical load requirements for processing equipment, the underground mill and other surface infrastructure features, such as the camp facilities and airstrip.

The Eagle's Nest Project will require the following key surface infrastructure components and site services to support construction, commissioning and production for the planned operations:

- Site roads.
- Process plant buildings (mine site).
- Ancillary buildings (offices, truck shop, warehouse et cetera).
- Maintenance complex.
- Camp facilities.
- Explosives storage area.
- Airstrip building.
- Fuel storage and distribution.
- Power supply and distribution.
- Concentrate handling, storage and load out (Nakina).
- Waste management facility.
- Water supply and distribution.
- Surface water management.
- Sewage treatment and disposal.

For the purpose of this Feasibility Study, it has been assumed that the bulk nickel-copper concentrate will be sold and shipped to a smelter in North America. Treatment and refining charges, metal payability and settlement terms are assumed on the basis of a confidential offtake agreement received by Noront.

A closure plan has been developed in accordance with the requirements of the Mining Act in Ontario. A monitoring framework will be developed during preparation of the EA and presented in that document. 3 years construction and 10.2 years LOM.

A workforce of 162 is expected.

Major facilities will be located underground. [in September 2020, Noront announced that "*The Company plans to update a portion of its Feasibility Study in 2020 and complete project permitting once the necessary financing is arranged. Management has identified certain*

opportunities to reduce the capital cost related to the mine and mill project including putting the process plant on surface as opposed to underground and simplifications to the mine design.”⁸⁵]

All tailings will be stored underground. Tailings produced from the mill will be mixed with cement to create a paste fill. Approximately 50-55% of the tailings resulting from total production of 11 Mt of ore will be needed for backfill of ore stopes. Hence some 5 Mt, or 2.5 Mm³ will need to be disposed of in aggregate stopes.

Access to site will be via an all-season road from Nakina to site.

Electrical power will be provided by a diesel power plant located at mine site.

The planned off-site infrastructure will benefit other companies and local communities.

Capital Costs (2012 estimate which excludes the road).

The total estimated pre-production cost of capital is \$609 million comprising \$195 million for mining, \$113 million for processing, \$100 million for infrastructure, \$158 million for indirect costs, and contingencies of \$44 million, as shown in Table 1.3. (2012 CDN \$).

What is said about taxation in the Noront Technical Report.

22.2.4 Taxation Regime

Canadian federal and Ontario provincial corporate income and mining taxes have been allowed for. Non-capital losses of \$22.9 million are carried forward to off-set project income. Likewise, projected utilization of CEE and CDE allowances of \$53.4 million and \$1.8 million, respectively, is taken into account. The base case assumes that the Project will achieve “Remote Mine” status, which provides for a reduction in the rate of Ontario mining tax and an extended period of allowances for a new mine. A sensitivity study, discussed below, demonstrates the impact of that assumption. Initial capital expenditure for the establishment of the mine is assumed to be eligible for accelerated depreciation. Thereafter, for income tax, ongoing capital is depreciated at an annual rate of 25% using the declining balance method, with a limit of 50% claimable in the year of acquisition. For the computation of the Ontario mining tax liability, ongoing capital is depreciated at 30% for mining assets and 15% for processing assets.

22.2.5 Royalty

No royalty has been provided for in the cash flow model.

The Blackbird Deposit as described by Noront:

The Blackbird deposit is less than 1 km from the Company’s Eagle’s Nest project and is conducive to bulk underground mining. The Company anticipates that the Blackbird deposit will be developed once Eagle’s Nest is in production and will share the same surface infrastructure. The Company is planning for the mine to produce approximately 550-750 thousand tonnes of ore which would produce approximately 200-280 thousand tonnes of Ferrochrome which represents approximately 40-50% of the North American Market. The upgrading of chrome ore to ferrochrome is required to serve the North American market

⁸⁵ Noront MD&A, Sept30, 2020, page 7

since there are no existing ferrochrome producers in North America. The Ferrochrome smelter is planned to be constructed at on the Algoma Steel (Algoma) site adjacent to their operations in Sault Ste. Marie. The Company can increase chromite production by developing its Black Thor chromite project. This expansion would supply the sea borne market primarily in China and Europe and would be undertaken if market conditions are favourable. An analysis to expand the existing FPF would be completed at this time. The Black Thor, Black Label and Big Daddy Chromite deposits are 5 to 8 km away from Eagle's Nest. These deposits come to surface and are conducive for bulk mining with chromite lenses averaging between 40 and 80 metres in true width (with maximum widths at Black Thor reaching up to 130 metres).⁸⁶

Appendix B. Summary of Cliffs Chromite Project Description for CEAA

The project description for the now terminated EA for Cliffs Chromite stated that:

The proposed project consists of constructing, operating and eventually decommissioning an open pit/underground chromite ore mine (30 year mine life at predicted extraction rate of 6,000 to 12,000 tonnes/day) and ore processing facility. The proposal also includes an integrated transportation system consisting of a new north-south all-season road corridor and a new ferrochrome production facility, which would be located at a different location than the mine site. The project mine site is located approximately 540 km north of the City of Thunder Bay, Ontario and 240 km west of James Bay in an area known as the " Ring of Fire ".

6. The Capacity of Regulators to Protect the Environment

There will be serious and long-reaching difficulties for governments to protect the environment and to honour its relationships with Indigenous Peoples in the face of a major extraction project such as the Ring of Fire. This section raises concerns that the Terms of Reference must address.

It is organized as follows:

- 1) The regulatory web in which the Ring of fire is enmeshed
- 2) The power of the mining industry to influence regulation and enforcement in Ontario
 - a comparison with Best Standards
 - environmental/impact assessment
 - subsidies and tax incentives
- 3) The need for a study of the capacity of regulators to enforce Best Practices

A) The regulatory web

Natasha Affolder writes:

Large-scale natural resource and infrastructure projects create some of the most challenging and high-stakes contexts for environmental regulation. They are marked by a diversity of parties, including project sponsors, contractors, commercial lenders, international financial institutions, numerous government agencies, and important non-

⁸⁶ Noront MD&A, Sept 30, 2020. page 8

contracting parties including local communities, Indigenous peoples, and environmental and human rights NGOs.

Complexity is added by the multiplicity of jurisdictions from which these parties emerge. Networks of local and foreign investors, domestic and international banks, and local and international NGOs surround large projects with complex webs. And the laws of multiple jurisdictions shape the project documents and avenues for dispute resolution. Large projects often impose a new legal infrastructure on a country as well as a web of interlinked contracts, many of which will be delocalized through international arbitration clauses and references to foreign law, as well as international standards.”⁸⁷

The Ring of Fire – like other large project proposals – will be enmeshed in layers of regulation and contracts that will shape its impacts on the region.

- Government regulators will be provincial, federal and (for the smelter) municipal.
- There are and will be agreements with Indigenous governments and individuals of one form or another.
- Noront and the other companies have commitments to investors, banks and insurance companies through contracts and loan agreements; they have lease and purchase agreements with suppliers, transport companies, promoters, employees, and other mines.
- They may make agreements with industry associations and civil society organizations.
- International trade and investment agreements will shape what is possible.
- The federal and provincial permitting process will involve dealing with a multitude of siloed departments with different procedures, schedules and interests.

Most of the agreements will be confidential. How priority is given to the differing interests of all these forms of regulation is an important question.

As an example, Noront has agreements of some kind with Webequie, Marten Falls and Aroland First Nation to be the proponents for sections of the company’s needed roads. The agreements are confidential, and according to Noront’s investor filings are not yet Impact Benefit Agreements.⁸⁸ Noront considers those agreements to be consent for the Ring of Fire project, but is it? The company also has confidential agreements with Wyloo and Franco-Nevada for loan facilities, but the public does not know what is in those agreements besides the re-payment terms reported in their investor filings.

How large projects like the Ring of Fire are regulated amid this complexity is a big question. What is the capacity of public regulators to shape their direction and hold them to account over decades of time?

⁸⁷ Natasha Affolder 2011. Why Study Large Projects? Environmental Regulation’s Neglected Frontier. Allard School of Law at the University of British Columbia, http://commons.allard.ubc.ca/fac_pubs

⁸⁸ Noront MD&A, Sept 30, 2020, page 5. “The Company’s primary objectives for fiscal 2020 are... Continue to advance discussions with the primary First Nation communities in the Company’s project area to conclude and sign a project advancement agreement in support of the Eagle’s Nest Project, which would ultimately lead to an impact benefit agreement. while providing training and future employment opportunities.”

B) The power of the mining industry to influence regulation and enforcement in Ontario

In Ontario, the mining industry has enormous power to trump treaty obligations to First Nations and to override the protection of water and land, non-extractive forms of economic development, and the needs of communities to determine their own future. There are many indications of the capture of Ontario's regulators by the mining industry. Ontario does not require EA for mines, while inadequate closure plans and reclamation bonding, tax regimes that unfairly advantage the mining industry, and a lack of any kind of real economic return from the mining industry to First Nations and municipalities (and even to the provincial treasury) are also big issues.

Despite the risky nature of this industry, Ontario has enabled an economy in which many people, mostly in remote parts of the province, depend on mining and its associated business generation for a living. Government's single-minded focus on this boom and bust industry, which exists by depleting the very resources and environment on which it depends, shapes everything in Ontario.

A Comparison with Best Practices

A comparison of best practices in mining across six Canadian mining jurisdictions, published by OKT Law in 2020, shows how much Ontario is shaped by industry requirements.

*Raising the Stakes: A Comparative Review of Canadian Mining Law and Responsible Mining Standards*⁸⁹ published by legal firm OKT (2020), compared practices in Ontario, Quebec, British Columbia, Yukon and the Northwest Territories to the best practices standards codified by the multi-stakeholder governed Initiative for Responsible Mining Assurance (IRMA)⁹⁰.

IRMA is a suite of international standards which was developed over 10 years, engaging more than 100 organizations on how best to address environmental and social issues in mining. IRMA's members include Anglo American, ArcelorMittal, Microsoft, Tiffany & Co., Jewellers of America, BMW, IndustriALL, United Steelworkers, First Nations Women Advocating Responsible Mining, Human Rights Watch, and Earthworks.

OKT found that Ontario was the worst actor of the mining jurisdictions reviewed in terms of Community Engagement and Free Prior Informed Consent. It was the only jurisdiction to have no environmental assessment for mines (discussed in more detail below). It did not meet IRMA standards for biodiversity protection, for water management, for waste management, or for reclamation and closure. Some of their findings are summarized below:

Biodiversity, Ecosystem Services and Protected Areas

Mining often occurs in areas with specific biodiversity and ecosystem values. Actual mine footprints may not be as large as other resource developments, but mine infrastructure can have regional- and watershed-level impacts, particularly where long-term tailings or effluent management is required.

⁸⁹ <https://www.oktlaw.com/raising-the-stakes/>

⁹⁰ <https://responsiblemining.net>

Ensuring the consistency of mine operations with specific ecosystem services and values is an important component of the evaluation of local conditions by a mine proponent.⁹¹

- Ontario does not cancel existing mining claims when protected areas are created,
- Ontario's legislation to protect endangered species is relatively strong, although no independent monitoring is provided for over the life of a mine,
- There is no requirement to address impacts from mining on biodiversity and ecosystem services other than to endangered species.

Water management

Water use and management is usually the biggest challenge for mining – from acid mine drainage, other mine site effluent issues, to overall water balance projections in tailings design. Protection of water resources is becoming more critical given growing demands on surface and groundwater resources and shifting climate conditions.

- The water licensing regime requires detailed applications for licences or approvals.
- Ontario law requires that qualified professionals “certify” the frequency and applicability of monitoring of hazardous substances including cyanide, arsenic, lead and mercury.
- In Ontario, detailed monitoring and reporting is required for water withdrawal and discharge approvals, including conditions related to adaptive management. Information regarding mining effluent is only available to the public on request.

Waste management

Long-term storage and disposal of mine waste is a major public policy matter for metal mines. Mine tailings storage creates legacy issues that are potentially catastrophic for human health and the environment. The need for rigorous waste management systems is clearly illustrated by the 2014 Mount Polley tailings dam breach in BC, and the resulting investigations.

- Ontario's regime does not provide sufficient detail concerning the full operation, maintenance and surveillance of all mine waste sites.
- There are no explicit requirements in the Mining Rehabilitation Code of Ontario to assess, document, or update the chemical and physical risks associated with tailings storage, though certification by a qualified engineer is required for that, although some requirements for reporting data and making adjustments are found in the industrial sewage works environmental compliance approval.
- With no environmental assessment, there is no explicit requirement to identify and assess alternatives for tailings storage.

Reclamation, Closure and Security

Communities are often left with the long-term changes and impacts of hard rock mining. Thus, it is important that they have assurances that the mine legacy will be managed after mine operations have

⁹¹ OKT, page 27.

concluded. In Ontario, closure plans are required before commencing advanced exploration and mine production and are to be updated with material changes.

- Public consultation periods for closure plans are in place, but only for 30 days. There is no explicit complaint or grievance mechanism, nor is there a requirement for periodic (eg. 5-year) reviews.
- While financial assurance is mandatory, the form is discretionary and not subject to third party review.
- A corporate financial test is a common means of fulfilling the financial surety. Though mandatory, the fact that companies may self-assure means that financial assurance likely is inadequate.
- In 2015, Ontario's Auditor General determined that the financial assurances of one-third of closure plans had not been updated since the early 2000s and companies that had passed the Corporate Financial Test had self-assured 10 closure plans, estimated to cost \$654 million.

Environmental Assessment

Ontario currently is the only jurisdiction in Canada that does not automatically require environmental assessment for mines and smelters, although this is under review. A very few mines do decide to voluntarily undergo EA at the same time as the federal EA.

If an environmental assessment is conducted (which for a mine, as noted above, would be done on a voluntary basis), all provincial authorizations that flow from the approved environmental assessment are exempt from any Ontario Environmental Bill of Rights (EBR) requirements for public consultation and any third party right to seek leave to appeal. This includes water withdrawal permits, water discharge permits, and overall benefit permits.⁹²

On July 8, 2020, Government of Ontario proposed sweeping changes to the Environmental Assessment Act (EAA) as part of the omnibus COVID-19 Economic Recovery Act, Bill 197. One of these changes is to develop a list of high-risk projects that will be subject to EA. It has not yet been decided if mines and smelters will be included on the project list.

Out of 31 mines and mills currently operating in Ontario, only four have gone through an EA, and only one of those was by the province; the other three were reviewed by the federal government. With one exception, mines and smelters in Sudbury, Timmins, and Kirkland Lake have never completed an EA. Although some Ontario mining permits do require streamlined class EAs as part of the permitting process, the Auditor-General of Ontario said in 2016 that this process allows too much proponent control of the process, cumulative impacts are not assessed, the public is inadequately informed, there is no independent review, and social, cultural, and economic factors are not addressed.⁹³

⁹² Environmental Bill of Rights Section 32, Ontario Water Resources Act, Ontario Endangered Species Act and Ontario Environmental Protection Act.

⁹³ Auditor-General of Ontario, 2016 report, Chapter 3, section 3.06.

https://www.auditor.on.ca/en/content/annualreports/arreports/en16/v1_306en16.pdf

In the Ring of Fire, in 2011, Noront volunteered its Eagle's Nest project to undergo provincial environmental assessment as it would have required a federal EA anyway, and a provincial EA would exempt the mine from separate assessments for its water and transportation permits. However, when the criteria to include mines on the project list was raised to 5000 tpd from 2500 tpd under the new Impact Assessment Act, Noront withdrew its federal application.

The provincial EA is still pending and in its third quarter regulatory filing on SEDAR, Noront indicated that it is restarting the provincial EA, without the road.⁹⁴

The same year, Cliffs Chromite also volunteered to undergo both a provincial and federal EA for its proposed chromite project, which included the Black Thor Mine, the roads required to service the mine and the ferrochrome smelter which they needed to process the ore before it could be shipped. At the time the project description was submitted, the company thought the smelter would be in the Sudbury Region. Cliffs suspended the project in September 2011 and then sold it to Noront. The federal EA (under CEAA 1992) was terminated in 2012.

The provincial EA appears to still be pending, although the company no longer exists and the project is dramatically changed, with the road split off from the original project, and the ferrochrome smelter now proposed for Sault Ste. Marie.

Transparency International

In late 2020, the Accountable Mining Program of well-respected Transparency International (TI) Canada released a new study analyzing EA transparency and accountability risks in Ontario, British Columbia and the Yukon Territory. Ontario did very poorly. The report found:

Risks [to transparency and accountability] have higher impacts and/or likelihood of occurring in Ontario than in other jurisdictions. This outcome is mostly a result of the province's unique EA regime. Ontario is the only Canadian jurisdiction where an EA is not mandatory for private sector projects, with a few exemptions. Often, a mining project is only subject to class EAs, which are limited in scope and largely preapproved. Proponents can make voluntary agreements to conduct an individual EA, which evaluates a project as a whole, but that does not happen frequently.⁹⁵

The most critical risks found in Ontario by Transparency International were:

- **Lack of evaluation of a mining project and its impacts cumulatively:** Class EAs do not examine a mining project as a whole and exclude cumulative impacts from regulator decision-making. Thus, the current EA framework limits the information available for all actors to understand how the proposed project broadly impacts the environment and society, and limits the public's ability to hold the actors accountable in the process.
- **Uncertainty on thresholds and vague criteria such as public interest:** There is significant uncertainty caused by the lack of clear thresholds that trigger an individual EA or the criteria that would lead the government to bump up a project to an individual EA.

⁹⁴ Noront MD&A, September 30, 2020. page 6.

⁹⁵ Transparency International. *Accountable Mining: A Risk Assessment of the Environmental Assessment Process – Canada National Report*. 2020. <https://transparencycanada.ca/s/TIC-AccountableMining-CanadaNationalReport-FINAL.pdf> page 11.

- **Limitations in meaningful Indigenous community consultation:** Accurately depicting social and cultural considerations of Indigenous communities is often challenging, given the diversity amongst communities, and these considerations are infrequently captured in EAs. Interviews and validation workshop feedback indicated that sometimes there is no consistency among provincial ministries on which communities are required to be engaged for a project, and there is a lack of guidelines on how to engage and fulfil consultation requirements properly.

Subsidies and Incentives

There are a number of subsidies and incentives to the mining sector in Ontario. Mines, mills and smelters dramatically affect the economy of Ontario.⁹⁶ The mineral industry is one of Ontario's largest employers, but in 2015, the Auditor-General found that

As of September 2015, Ontario's effective tax rate [for mines] was only 5.6%, considerably lower than the national average of 8.6%. However, the amount of mining taxes and royalties collected from mining companies over the last 20 years has averaged less than 2% of the value of minerals extracted. Ontario has collected very little in royalties from its only diamond mine. We also noted that the Ministry lacks adequate processes to manage mine closure plans and the rehabilitation of abandoned mines.⁹⁷

This situation has not changed.⁹⁸ Most of the mines contemplated in the Ring of Fire will be able to take advantage of remote mine provisions in the Mining Act,⁹⁹ as well as the processing allowance provisions. Effectively they will pay no tax for at least ten years after going into production. By December 31, 2019, Noront had accumulated over \$91 million in non-capital income tax losses and \$25 million in income tax credits (exploration expenditures)¹⁰⁰ which could be deducted for income tax purposes in the future.

If and when a mine becomes uneconomic and is abandoned, or where there is a catastrophic failure of a tailings impoundment, it is the province that has to pay for remediation, containment and clean-up.¹⁰¹ Being able to determine which projects go ahead is the fiscally responsible approach. If, for example, there were a catastrophic failure of the Detour Lake Mine tailings impoundment, it is the province that would be liable for any amount over that held in the company's financial assurance of \$47 million.¹⁰²

In 2015, the Auditor-General found that there were more than 4400 abandoned mines in Ontario, for which the province was responsible. On existing mines, the province currently holds just over \$2 billion in financial assurances, of which \$521 million is only a line on a Vale Canada balance sheet.¹⁰³ Five years

⁹⁶ Auditor-General of Ontario <https://www.auditor.on.ca/en/content/annualreports/arreports/en15/1.00en15.pdf>

⁹⁷ Ibid.

⁹⁸ Ontario's Resource Revenue Sharing Agreements: A Step towards Reconciliation? September 2019. <http://www.ojams.ca/2019/09/>

⁹⁹ The Ontario Mining Act provides:

- Mining Tax Annual \$500,000 Deduction — The Mining Tax is applied to an operator's annual profit in excess of a \$500,000 annual deduction, which needs to be shared by associated corporations.
- Mining Tax Holiday for New Remote Mines — Up to \$10 million of profit over the first 10 years generated by a new mine opened in a remote Ontario location is exempt from Mining Tax.
- Mining Tax Rate for Remote Mines — After the Mining Tax holiday ends for new remote mines, the Mining Tax rate is reduced from 10 per cent to 5 per cent on the profits from the operation of a remote Ontario mine.

¹⁰⁰ Noront audited financial statements for 2018 and 2019, note 14, page 29.

¹⁰¹ Ibid., figure 4, and page 438-40

¹⁰² <https://www.mndm.gov.on.ca/en/news/mines-and-minerals/financial-assurance-table>

¹⁰³ Ibid.

ago, in 2015, MiningWatch Canada estimated that the actual cost of containing toxins and clean-up of these mines would be \$7.6 billion.¹⁰⁴

When a major mine closes, the mine/mill infrastructure and the other over-sized buildings become a liability instead of an asset in the face of lost revenues from taxes; the regional governments and close-by communities are faced with a loss of population and revenue from taxes; and the costs of providing services either remain the same as they were during the mine life or actually increase.

The Ministry of Energy, Northern Development and Mines' (ENDM) most recent Table of Financial Assurances, updated on March 31, 2019, continues to list seven of Vale's sites as assured under the "Financial Test" despite the fact that in February, Moody's downgraded the company's credit rating to junk status. Under the Mining Act, companies that have provided financial assurance in the form of the financial test must deposit realizable financial assurances in full within 30 days of having their credit rating downgraded.

Vale in Sudbury is a disturbing example. Vale Canada estimates the costs of remediating and maintaining its Central Tailings Facility forever at \$330.4 million. When the company includes its smelter, two refineries, the Copper Cliff North Mine in Sudbury, and the refinery in Port Colborne, the total estimate comes to \$548 million. Without realizable financial assurances, these clean-up costs will revert to the public, should Vale declare bankruptcy, or find itself unable to pay. An "Asset Retirement Obligation" line on the Vale Canada Inc.'s balance sheet is the only financial security for the public when (not if) the company closes the operations.

Securities Law

Despite having more mining companies trading on the TSX than at any other stock exchange in the world, the provincial securities regulator has identified serious problems with enforcing securities regulations against mining companies, and none of them have been penalized. A survey by Ontario Securities Commission staff found only 20% of National Instrument 43-101 reports filed by mining and exploration companies with the OSC are actually in compliance, while 40% are flat out unacceptable.¹⁰⁵

Water for Free

The mining industry has quietly managed to delay the Implementation of Phase 2 of the Permit to Take Water regulation under the OWRA. The Permit to Take Water Regulation was passed in 2007, and required large industrial users to pay \$3.71 for every million litres of water they consumed. The regulation was to be introduced in two phases with mining in Phase 2. Phase 2 has never been implemented, and mining companies still get free water.¹⁰⁶

¹⁰⁴ <https://miningwatch.ca/news/2015/12/9/wake-call-ontario-ranks-worst-canada-environmental-liability-mine-sites>

¹⁰⁵ *OSC staff report on compliance with NI 43-101*. http://www.osc.gov.on.ca/documents/en/Securities-Category1/sn_20130627_43-705_rpt-tech-rpt-mining-issuers.pdf

¹⁰⁶ <http://www.ontario.ca/environment-and-energy/water-taking-report-and-charges>

C) The need for a study of the capacity of regulators to enforce Best Practices

In a report written for Citizens for Responsible Industry in Northern Ontario (CRINO) during the earlier stage of the environmental assessment of the Marathon mine,¹⁰⁷ Stephen Hazell analyzed the capacity of the provincial and federal governments to hold the mine operators to their commitments. Written in 2011, the report rings true today. The RA Terms of Reference must require a study of the capacity of federal and provincial regulators to monitor and enforce the findings of mining-related environmental assessments.

The following concerns reflect what Hazell found:

- Publicly available information on monitoring and enforcement is scant and difficult to obtain in Ontario and Canada.
- The Ministry of Northern Development and Mines (now ENDM) provides no information on funding or staffing levels, but is primarily focused on development and growth of the industry. Publicly available information is insufficient to assess monitoring or enforcement capacity. The Ontario Auditor-General has repeatedly investigated and found deficiencies (2005 and 2016) in compliance and monitoring in the department
- The Ontario Ministry of the Environment is responsible for management of air quality, water quality and toxic substances. There was a very low level of orders and prosecutions, although many complaints to the Environmental Commissioner. There were substantial cuts to the department and the ECO office was eliminated in 2019.
- Federally, the Department of Fisheries and Oceans has faced annual cuts in staffing and funding. Hazell found no evidence of DFO enforcement actions. We know that no charges were laid following the Mount Polley tailings disaster and that citizen prosecutions were taken up by the Crown and stayed.
- A report by Ecojustice in 2011 indicated a declining trend in CEPA prosecutions from 2000-2011, with less than 20 prosecutions in most years.
- It is not yet clear how the Impact Assessment Agency will be able to enforce the Act over time, and prevent the findings of follow-up or mitigation measures from becoming a political football.

A comment on monitoring and enforcement

Given all the uncertainties in the analysis of socio-economic effects, the significance of this projected mining activity to the Anishnaabe, Anishiini and Omushkegowuk peoples, and its potential to seriously damage the environmental, social and economic fabric of the area, a careful plan to validate all the predictions and assumptions in the baseline and effects assessments at regular intervals throughout the project must be developed for each individual project assessment stage. Monitoring for follow-up programs must be a participatory, inclusive, and transparent process that involves the First Nations, and vulnerable populations in all the local communities. It must incorporate the precautionary principle.

¹⁰⁷ Comments on Environmental Impact Statement and Monitoring, Reporting and Enforcement. Submission to the Joint Review Panel for The Marathon Platinum Group Metals and Copper Mine Project. Citizens for Responsible Industry in Northwestern Ontario. October 26, 2012.