ROBERT SOLOMON

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The information in this report is current to December 2019 and is based on reviews of legislation and related materials in the study jurisdictions. Every effort has been made to ensure currency and accuracy across the jurisdictions. Errors and omissions are those of the contributors.

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Abbreviations

BAPE	Quebec's Bureau of Public Hearings on the Environment
BC	British Columbia
BC EAA	BC Environmental Assessment Act
BC EAO	BC Environmental Assessment Office
BC HSR Code or the Code	Health, Safety and Reclamation Code for Mines in British Columbia
COMEX	Quebec Environmental and Social Impact Review Committee / Comité d'examen des répercussions sur l'environnement et le milieu social
FPIC	Free, Prior and Informed Consent
GNWT	Government of the Northwest Territories
IRMA	Initiative for Responsible Mining Assurance
MVEIRB	Mackenzie Valley Environmental Impact Review Board (NWT)
MVLWB	Mackenzie Valley Land and Water Board (NWT)
MVRMA	Mackenzie Valley Resource Management Act (Federal law applying to NWT)
NWT	Northwest Territories
Ontario EAA	Ontario Environmental Assessment Act
Ontario EBR	Ontario Environmental Bill of Rights, 1993
Quebec EQA	Quebec Environment Quality Act
Quebec SDA	Quebec Sustainable Development Act
UN Declaration or UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
YESAA	Yukon Environmental and Socio-economic Assessment Act
YESAB	Yukon Environmental and Socio-economic Assessment Board

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Executive Summary and Key Recommendations

Canada is an important international mining jurisdiction with a notable mineral base. Its ability to attract investment in the future will depend on how its mining laws measure up to international best practices. These standards for performance in the mining sector are evolving rapidly in order to address growing demands for responsibly sourced metals and minerals.

Leading metals producers, buyers, financiers and civil society organizations are now working together to establish thresholds for best practices through the development of a detailed certification standard to evaluate and identify responsible mining projects.

To gauge where Canada stands relative to these emerging responsible mining markets, and to identify areas for improvement, this legal review examines selected components of mining regimes in five Canadian jurisdictions: British Columbia (BC), Ontario, Quebec, Yukon and the Northwest Territories (NWT).

As a comparator against which to judge the strength of these laws governing mining across Canada, the report uses the multi-stakeholder governed Initiative for Responsible Mining Assurance (IRMA) standard. IRMA is a pioneering example 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.

This report measures the extent to which these Canadian jurisdictions achieve best practices by comparing them to the IRMA Standard and making recommendations for improvements. The report focuses on key elements of mining laws and policies such as: Community Engagement; Environmental Assessment; Free, Prior and Informed Consent; Biodiversity, Ecosystems and Protected Areas; Water Management; Waste Management; and, Reclamation, Closure and Security. A summary of the key recommendations follows.

The study concludes that none of the five jurisdictions reviewed have legislative requirements sufficient to meet the IRMA Standard, although various aspects of the Standard may be found in components of each jurisdiction's mining laws. Notably both Quebec and the NWT are emerging as social and environmental leaders who should have a competitive edge for those seeking to source responsible metals.

Recent advancements related to recognition of Indigenous rights in British Columbia contain great promise. BC's new *Environmental Assessment Act* is a significant advancement. BC's new *Declaration on the Rights of Indigenous Peoples Act*, combined with the longstanding need for mining law reform in that jurisdiction, means that it is time for the government to make deep improvements to its mining law framework.

The information in this report highlights the need for more urgency in all study jurisdictions to undertake reforms that will move them towards greater compatibility with international best practices.

There is much for each jurisdiction to learn and consider in incorporating best practices to meet the IRMA Standard. Innovation in legislation in other jurisdictions, combined with the continued economic success of mining projects in those jurisdictions, demonstrates that progressive mining legislation providing expanded scope and opportunity for community engagement, reconciliation with Indigenous peoples, modernized tenure and operating regimes, and a more limited role for ministerial or political discretion in approvals is compatible with a robust mining industry.

While Canada has modern regulatory safeguards compared to many parts of the world, it still faces serious challenges in addressing the environmental and social impacts of mining. Major tailings dams still fail. Rivers are still being degraded by mining effluent. Critical habitats face increasing pressure from industrial development and climate change. The recognition of Indigenous rights in project development continues to be a challenge for many new and existing projects.

Key Recommendations for Legal Reform:

1. Implement Free, Prior and Informed Consent (FPIC)

2. Prioritize Community Engagement

3. Modernize Mineral Tenure Systems

4. Limit Regulatory Discretion

1. Implement Free, Prior and Informed Consent (FPIC)

A critical component of the IRMA Standard is the requirement for mining companies to obtain the free, prior and informed consent of Indigenous peoples for their activities. Governments in Canada are committing to reconciliation with Indigenous peoples, partly as a result of the calls to action of the Truth and Reconciliation Commission of Canada. Resource projects, such as mines, are often proposed and developed on Indigenous lands, meaning that efforts at reconciliation must include mining considerations.

Significantly, the BC legislature unanimously passed Bill 41, the *Declaration on the Rights of Indigenous Peoples Act* in November 2019.[1] BC is now the first jurisdiction in Canada, and one of the first globally, to enact a legal framework to give effect to the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP or UN Declaration). The *Declaration on the Rights of Indigenous Peoples Act* establishes the clear intention by BC to "take all measures necessary to ensure the laws of British Columbia are consistent" with the UN Declaration.[2] It will require government action plans to harmonize provincial laws with it and annual reporting to evaluate progress to that end. It also enables decision-making agreements with Indigenous governing bodies as a means to achieve FPIC.

BC's new *Environmental Assessment Act* (BC EAA) is also a significant development in this regard. The legislation signals a departure from past practice, taking major steps toward recognizing the role of Indigenous peoples in resource development. The BC government is now required to "seek to achieve consensus" with Indigenous nations in environmental assessment decision-making.[3] This framework still falls short of FPIC but clearly recognizes it as an objective.

The introduction of legislation to implement the UN Declaration in BC, and commitments by the NWT and Canada to bring forward similar legislation, suggests that there is significant momentum towards enabling FPIC in Canada. It may now be a question of when—not whether—such reforms will be adopted in other Canadian jurisdictions.

Similarly, the new *Mineral Resource Act* in the NWT requires developers to enter into benefit agreements with affected Indigenous communities before mineral production can begin. While this new regime does not require FPIC at the exploration stage, the requirement for consent prior to development creates a powerful incentive for exploration companies to obtain FPIC at the earliest stages to ensure that later approvals can be acquired.

Incorporating FPIC in mining legislation across all Canadian jurisdictions is the most significant step that could be taken to meet the IRMA Standard and advance implementation of the UN Declaration.

2. Prioritize Community Engagement

A key premise underlying the IRMA Standard is the recognition that when mining companies develop projects they are present for the long term. The life cycle of a successful mining project often extends over a generation or more. Accordingly, the IRMA Standard encourages companies to engage with communities at early exploration stages, and to remain engaged through to reclamation, closure and post-closure.

Most jurisdictions in the study have mineral regimes that do not offer an opportunity for public engagement when tenures are acquired, offering few opportunities for engagement until a full mining project is sanctioned. Many of the public participation measures found in the Quebec legislation are recent amendments resulting from sustained pressure for community involvement in ways that are consistent with, or moving toward, the IRMA Standard. BC's new EAA, which anticipates broader community involvement and presumes the establishment of Community Advisory Committees, is also a step in that direction. The Northern regimes operate in a modern land claims context in which community engagement is required but bridging cultural divides between regulators and Indigenous communities remains an ongoing challenge.

3. Modernize Mineral Tenure Systems

Mineral tenure systems are not an IRMA comparator, but these outdated free-entry legal frameworks have caused historic problems and pose obstacles to the ability to meet IRMA Standards. A modified approach to mineral tenure – that establishes conditions for grants of tenure and enables the exercise of discretion before tenure is granted, allows for interests in minerals to be acquired in incremental steps, and provides scope for notice and measures for land withdrawals – would help avoid or reduce conflicts with other values. This would ensure that Indigenous interests and surface landowner concerns could be addressed proactively – preferable to the conflicts which may otherwise arise in an unmodified free-entry regime.

[1] BC Legislature, 2019, Bill 41, *Declaration on the Rights of Indigenous Peoples Act*, available online: https://www.leg.bc.ca/parliamentary-business/legislation-debates-proceedings/41st-parliament/4th-session/bills/first-reading/gov41-1

[2] BC Legislature, 2019, Bill 41, *Declaration on the Rights of Indigenous Peoples Act.*

[3] BC *Environmental Assessment Act*, SBC, c 51, s 7.

All the study jurisdictions grant mineral tenure based on free-entry principles. The free-entry system was held to be unconstitutional in a 2012 decision of the Yukon Court of Appeal. Change is gradually occurring. Ontario and Quebec now require notification of Indigenous peoples and affected landowners prior to exploration, and Ontario and the NWT have modified the interest granted in minerals at the time of staking to be a licence, rather than a property interest in the land. Claim holders are entitled to seek leases at later stages of exploration. Other innovations include provisions applicable to southern Ontario in which lands that are privately owned are deemed withdrawn. In northern Ontario, mechanisms exist to enable surface rights owners to apply for subsurface withdrawals. These are all important developments, as they provide mechanisms to resolve conflicts between mineral interests and the underlying rights of Indigenous peoples, as well as greater regard for the rights and interests of landowners and communities.

For example, the NWT *Mineral Resources Act*[4] now mandates notification to Indigenous governments of applications to record a mineral claim, as well as requiring prior notice of intended work on such a claim.[5] It also introduces legislative processes by which the Government of the Northwest Territories (GNWT) and Indigenous governments together may establish areas where issuance of mineral interests is prohibited,[6] and zones where it is encouraged.[7]

The changes made in each of these jurisdictions in response to Indigenous interests and landowner concerns indicate that reforms to mineral tenure are achievable and can be accomplished in a manner that does not interfere with industry competitiveness. These advances should be the minimum that BC is required to implement as it modernizes its regime to comply with the UN Declaration. The work of these other jurisdictions is a starting point for BC.

4. Limit Regulatory Discretion

The extent of discretion in government decision-making, regarding mine development and mine practices throughout all study jurisdictions, is problematic, particularly in light of the IRMA Standard which is designed to raise the bar for mine *performance*.

Discretion inherent in government decision-making regarding mine development and mine practices is a barrier to achieving IRMA Standards. Toxic legacies from poor discretionary decisions exist across Canada after decades of modern industrial mining. The abandoned Faro (Yukon) and Giant (NWT) mines, which both closed in the 1980s and now require perpetual care, and the Mount Polley tailings dam catastrophe (BC), are examples that have resulted in significant costs to the public and to all levels of public government. Underlying these situations is a regulatory regime in which discretion is exercised to reduce oversight or to lower standards. The IRMA Standard is designed to avoid these situations by ensuring that mining operations are independently certified as meeting objective standards throughout the life of the mine.

BC has made advances through the passage of the *Declaration on the Rights of Indigenous Peoples Act* and its new EAA that seeks to achieve consensus with Indigenous peoples, but this initiative must be supported by additional reforms, particularly given the province's track record. Both the Independent Expert Panel that reviewed the Mount Polley tailings spill and the 2016 BC *Audit of Compliance and Enforcement of the Mining Sector* identified significant shortcomings in the provincial regulatory regime with respect to mines.[8]

While BC has also taken steps recently to improve dam safety with respect to mine waste, it should be noted that these changes were after-the-fact reactions to the Mount Polley spill, not proactive measures to improve safety. They still fall short of best practices indicated by the IRMA Standard and BC has yet to implement all the recommendations. Moreover, there is ongoing concern that some of these changes are still discretionary and may not, in fact, alter mine waste practices significantly in BC.[9]

Other Canadian jurisdictions, notably Quebec, are leading in the implementation of performance standards and financial security measures. In BC, such measures are either the responsibility of the industry itself – in the form of self-regulation and

[4] NWT Mineral Resources Act, available online: https://www.assembly.gov.nt.ca/sites/default/files/bill_34.pdf
[5] NWT Mineral Resources Act, ss. 28(5) & 42(5) [NWT Mineral Resources Act].
[6] NWT Mineral Resources Act, s. 22.
[7] NWT Mineral Resources Act, s. 24.
[8] Independent Expert Engineering Investigation and Review Panel, Report on Mount Polley Tailings Storage Facility Breach, January 30, 2015, available online: https://www.mountpolleyreviewpanel.ca/final-report [Expert Report on Mount Polley]; Office of the Auditor General of British Columbia, An Audit of Compliance and Enforcement of the Mining Sector, May 2016, available online: http://www.bcauditor.com/pubs/2016/audit-compliance-and-enforcement-mining-sector [BC Audit].
[9] See 2018 review of progress on recommendations prepared by Centre for Science in Public Participation: http://fnwarm.com/wp-content/uploads/2018/09/Mt-Polley-Mine-Disaster-CheckUp-2018.pdf

professional judgment — or of regulators with wide-ranging discretion over the form and adequacy of financial security measures. Furthermore, remediation cost estimates (i.e., the estimates used to set the security amount) are confidential, making it difficult for the public to assess the adequacy of proposed remediation activities and required security amounts. The NWT and the Yukon have robust costing provisions for financial security, but the Yukon regime permits the Minister to exercise discretion in setting the actual amount and form of security required for a given project. In the NWT, regulatory co-management bodies establish the amount of the security, but the Minister is able to determine its form. Given the long-term legacy implications of operating mines, and the BC Auditor General's recent recommendations to strengthen the financial security regime, all Canadian jurisdictions should fully adopt the IRMA Standard for reclamation.

The IRMA Standard provides guidance to policymakers in the design of laws and regulations that would require these standards in mine reviews and approvals. In contrast, unfettered discretion leaves the decision to apply a standard or not to political decision-makers or regulators. When discretion is allowed, the application of standards may vary. If this variation is significant across projects it can contribute to a lack of certainty and lack of public trust in mining regulatory regimes. Overall, discretion remains a barrier to advancement in best practices.

Introduction

As new and different markets emerge for metal products across Canada, robust regulatory frameworks calibrated to modern needs will be key to the long-term success of mining projects and advancement of the industry. Growing awareness of problems, and expectations of accountability for both industry and government, are sharpening the need to modernize mining law and regulation in British Columbia (BC).

Canadians benefit from modern regulatory safeguards compared to many parts of the world but still face serious challenges in addressing the environmental and social impacts of mining. Major tailings dams still fail. Rivers are still being degraded by ongoing and intractable mining effluent. Critical habitats for species are facing increasing pressure from a range of industrial development and climate change impacts. The recognition of Indigenous rights in project development, and generally, continues to be a challenge for new and existing projects.

Canada is an important international mining jurisdiction with a notable mineral base. Its ability to attract investment in the future will depend on how its mining law regime measures up to international best practices. Working with globally recognized metals producers, buyers, and civil society leaders, the Initiative for Responsible Mining Assurance (IRMA) has established the threshold for best practices through the development of a detailed certification standard whose function is to evaluate and identify responsible mining projects (the "IRMA Standard").

To gauge where Canada stands relative to these emerging responsible mining markets, and to identify areas for improvement, this study examines selected components of mining regimes in five Canadian jurisdictions: BC, Ontario, Quebec, Yukon and the Northwest Territories (NWT). This study measures whether and how these Canadian jurisdictions achieve best practices by comparing them to the IRMA Standard, focusing on key elements of mining laws and policies. As BC and the NWT, as well as the federal government, have all committed to pass legislation to implement the UN Declaration on the Rights of Indigenous Peoples, the IRMA Standard is an important benchmark for assessing how domestic mining laws meet international standards.

This report provides an overview of laws and policies on key issues in the study jurisdictions. Comparing them to the IRMA Standard is important in evaluating the extent to which the mining law regime in each jurisdiction reflects best practices and will shed light on the strengths and weaknesses of each mining law framework. It is hoped that, over time, the information in this report will encourage all study jurisdictions, and particularly BC, to harmonize toward the IRMA Standard. Given that BC has now committed to reform its mining laws to implement the UN Declaration, a clear understanding of best practices is useful and sets a bar to work toward.

This study is designed to inform and encourage policy makers, regulators and those looking to strengthen mining practices, in their efforts to further reconciliation with Indigenous peoples and to protect communities and the environment.

Initiative for Responsible Mining Assurance: IRMA

The Initiative for Responsible Mining Assurance (IRMA) has developed the IRMA Standard and certification scheme to recognize mines that apply leading practices in their operations, thereby avoiding many of the negative social and environmental impacts of mining.

IRMA was founded in 2006 by a coalition of mining companies, affected communities, organized labour, businesses that purchase metal products, and non-governmental organizations. The IRMA mission is to establish an independently verified, responsible mining assurance system that improves social and environmental performance and creates value for leading mine sites.[10]

A Note about Study Methodology

As an overview of key components of the legal regimes for hard rock mining in major mining jurisdictions in Canada, this study is not a comprehensive analysis of those regimes, nor does it address directly other types of mining, such as placer, coal, uranium, aggregate or fossil fuel extraction.

This study does not aim to provide a full assessment of how each regime measures up to each component of the IRMA Standard. The IRMA Standard is designed to apply to the performance of mining companies with respect to a specific mining project while regulatory systems are more broadly designed, setting minimum requirements and standards for approval and operation of mining projects generally. Evaluating how a given legislative regime meets the IRMA Standard requires generalizations to be made.

In this context, study jurisdictions' legal frameworks are compared against the relevant IRMA Standard in order to highlight key areas that would benefit from reform. Thus, study jurisdictions are not expected to have calibrated their legal frameworks to IRMA or vice versa.

Readers should note that different jurisdictions and legislation use similar but distinct terminology to reference the same subject matter. For example, the *Ontario Mining Act* regime refers to "Aboriginal community," the *Constitution Act, 1982* refers to "Aboriginal peoples," and the IRMA Standard refers to "Indigenous peoples." Some jurisdictions regulate mining using water licences and mining permits (such as BC, Yukon and the NWT) whereas Quebec requires a whole-of-government approval for many mining projects. Use of the terms in the context of applicable legislation has been attempted so terminology will vary accordingly.

Study chapters were chosen based on the applicable IRMA Standard with some overlap in the presentation of study results. For example, environmental assessments in study jurisdictions typically require community engagement and consideration of impacts over the projected life of a project. Such information is often considered in the regulatory permitting phases for different and distinct approvals. Accordingly, the most relevant IRMA Standard is addressed.

Notably, the IRMA Standard requires that mining companies comply with the laws of the jurisdiction in which they operate. Applicable laws are the "floor" on which the IRMA Standard is built. However, if there is a conflict between a component of the IRMA Standard and an applicable law, IRMA requires that the higher IRMA Standard must be met, as long as doing so does not require a company to violate the law.[11]

Each jurisdiction's compliance with the IRMA Standard is compared and ranked and more detailed assessments are provided in the appendices, organized by chapter. Rankings are necessarily qualitative. At the end of each section, summary measures are identified in chart form. Each jurisdiction is ranked as follows:

GREEN meets the IRMA Standard;

YELLOW partially meets the IRMA Standard;

RED does not meet the IRMA Standard.

Where study jurisdictions allow discretion to the regulator to determine whether a standard is met, that measure is considered to have been partially met because implementation of the standard remains optional and subject to the exercise of discretion.

Finally, this study focuses on relevant provincial and territorial legal regimes. Federal legislation, such as the recently proclaimed federal *Impact Assessment Act*, and mine-related regulations under the *Fisheries Act* are not included. Since these requirements apply across Canadian jurisdictions, they are neutral for the purposes of a jurisdictional comparison.

[10] Initiative for Responsible Mining Assurance, IRMA Standard for Responsible Mining, May 26, 2018 [IRMA Standard], available online: https://responsiblemining.net/wp-content/uploads/2018/07/IRMA_STANDARD_v.1.0_FINAL_2018.pdf, preamble.

[11] IRMA Standard, Chapter 1.1, available online: https://responsiblemining.net/wp-content/uploads/2018/07/IRMA_STANDARD_v.1.0_FINAL_2018.pdf, preamble.

Overview of Mineral Tenure and Review Processes in Study Jurisdictions

Mineral tenure, or access to lands for mineral exploration and development, is the foundation of mine development. All jurisdictions in this review are characterized by the free-entry system, whereby mineral access is guaranteed once a claim has been staked or registered[12] and a lease has been obtained (see Figure 1). Some jurisdictions, such as Ontario and Quebec, recently have made legislative changes to modernize their approach, while others, such as the NWT, have brought forward entirely new legislation to govern their mineral tenure regimes. Brief summaries of mineral tenure and approval processes for each study jurisdiction are provided below.

FIGURE 1
FREE-ENTRY MINING SYSTEM

LAND OPEN TO STAKING	MINERAL CLAIM RECORDING	MINING LEASE
• Free-entry is premised on public land being open ("free") to be staked by licensed prospectors. • Prospectors are able to stake any lands open to staking. • Mineral rights are acquired at the time of staking, but must be registered in order to be made effective.	• First in time, first in right principle applies. • Registration of validly staked claims is non-discretionary. • Many jurisidictions now moving to a "map-staking" system in which staking and recording a claim occur simultaneously online.	• Once a claim is registered, the prospector has exclusive rights to explore for minerals. • The mineral claim holder has a priority right to obtain a mineral lease and to bring any minerals into production, subject to the payment of a royalty to the Crown.

BRITISH COLUMBIA

Mining in BC has long been granted priority status over other land uses. Tenure is regulated under the *Mineral Tenure Act*,[13] which sets out a free-entry system that has remained largely unchanged since 1859. This free-entry system simply requires an application for a Free Miner Certificate. The holder of a Free Miner Certificate can stake a claim on Mineral Titles Online,[14] a user-friendly, online database of mineral claims. There has been an exponential increase in the number and land-area of claims staked across the province since its inception in 2005.[15]

By staking a claim the "recorded holder" acquires rights to the minerals downward from inside the boundaries of the claim. This includes the exclusive right to use, enter and occupy the surface of the claim area,[16] produce up to 1,000 tonnes of ore

[12] Traditionally, claims were "staked" for mining, though more recently with the transition to staking online, claims are "registered." For the purposes of this report, both terms may be used.
[13] BC *Mineral Tenure Act*, RSBC 1996, c 292 [BC *Mineral Tenure Act*].
[14] Mineral Titles Online, available online: https://www.mtonline.gov.bc.ca/mtov/home.do
[15] West Coast Environmental Law and Fair Mining Collaborative, "Modernizing BC's Free Entry Mining Laws for a Vibrant, Sustainable Mining Sector," page 2, available online: https://www.wcel.org/sites/default/files/publications/WCEL_Mining_report_web.pdf
[16] BC Mineral Tenure Act, s. 11.

per year from each cell in a cell claim,[17] and extract a bulk sample of up to 10 000 tonnes of ore once every five years.[18]

Recorded holders have a right to enter private lands to explore for minerals and are only required to provide a few days' notice to landowners. There is no explicit requirement under the *Mineral Tenure Act* for the government or the recorded holder to notify or consult Indigenous peoples prior to the staking of a claim or entering onto Indigenous peoples' territories or lands to conduct exploration activities.[19]

If a recorded holder wishes to produce higher volumes of ore than are permitted as part of exploration, they must obtain a mineral lease. The requirements to convert a claim to a lease are *pro forma* – the miner must complete an application, pay a fee, prepare a land survey and meet basic notice requirements.[20] A mineral lease is an interest in land and has a term of up to 30 years, which can be renewed.

If these requirements are met, the Chief Gold Commissioner cannot refuse to convert the recorded holder's mineral claim to a lease. Accordingly, the government cannot consider any competing land uses in deciding whether to grant mineral leases. Mineral leases are issued irrespective of the recorded holder's relationship with local Indigenous peoples, their commitment to local employment, their financial or technical capacity, or their track record for environmental compliance. BC law contains provisions whereby mining rights can be withdrawn but these provisions require compensation and are rarely, if ever, utilized.[21]

After acquiring a mineral lease, leaseholders may apply for a major mine permit issued under the *Mines Act*. Such applications usually require an environmental assessment approval which includes assessment of plans for environmental protections, Indigenous and public consultation, and site reclamation. On receipt of an environmental assessment approval, the leaseholder can apply for a major mine permit.

ONTARIO

Mineral tenures in Ontario also are granted through a free-entry system that has been subject to minor modifications in recent years. Lands in Ontario are open for mining unless expressly withdrawn.[22] To register a claim, it is necessary to hold a prospector's licence.[23] Initially, registering a claim is sufficient to establish mineral rights. However, mineral rights at the time of registration take the form of a licence, rather than an interest in land. Once a claim is registered, the mineral claim holder is required to obtain further approvals to carry out assessment work and must apply to have the mineral claim upgraded into a mineral lease as work progresses. Once a claim is registered, there are three ways that mining rights may returned to the Ontario government: the claim holder or leaseholder may voluntarily surrender the claim or fail to meet a statutory requirement,[24] or the Minister may cancel the claim, which is rarely if ever done.[25]

Ontario began a public review of the *Mining Act* in 2008 and conducted public consultations prior to amending it,[26] as required by the *Environmental Bill of Rights* (Ontario EBR). The Ontario government's "Modernizing the Mining Act" process was phased in between 2009 and 2018, with four key changes to the mining regime:

1. Engagement with Aboriginal communities enhanced[27];
2. Transition from physical claim staking to online claim registrations;

17 Mineral Tenure Act Regulation, BC Reg 529/2004 [BC Mineral Tenure Act Regulation], s. 17.
18 BC Mineral Tenure Act Regulation, s. 17.
19 The BC Government does consult, in a limited fashion, by sending referrals to First Nations on NOW (Notice of Work) applications (i.e., the exploration permit), but it is not mandated specifically in the legislation.
20 Mines Act, RSBC 1996, c 293 [BC Mines Act], s. 42.
21 See, for example: BC Park Act, RSBC 1996, c 344, s. 11; BC Mineral Tenure Act, RSBC 1996, c 292, ss. 17.1 & 22.
22 Authority is delegated to the Minister of Energy, Northern Development and Mines to make orders to withdraw lands from mining per the Ontario *Mining Act*, RSO 1990, c M14 [Ontario *Mining Act*], s. 35(1). As per s. 30 of the Ontario *Mining Act*, claims cannot be registered at all on certain lands, including those required for water power, highways, or other public purposes; First Nation reserves; within 45 meters of a church, cemetery, or burial ground.
23 Ontario *Mining Act*, s. 18. See also Ontario *Mining Act*, s. 19(1): because of *Mining Act* Modernization, completion of the *Mining Act* awareness program is required.
24 Ontario *Mining Act*, s 26, s 72(1). This includes submitting reports or payments related to assessment work, submitting an exploration plan or exploration permit for early exploration activities, and submitting a closure plan for advanced exploration and mine development.
25 Ontario *Mining Act*, s 50(1) specifies that mineral claims holders are "tenants at will" of the Crown. The Ontario government can lawfully terminate mining claims or re-acquire other mining rights for another valid public purpose (as with any other private property rights) with due process.
26 In 2008, the government consulted on a working paper called "Modernizing Ontario's Mining Act – Finding a Balance" (see Ontario EBR Registry Number: 010-4327). With the outcome of the first consultation, the government consulted on the "Proposed legislative amendments to the *Mining Act*" (see Ontario EBR Registry Number: 010-6559). As well, once the amending legislation was passed, the government phased in the changes and had public consultations on proposed implementing regulations, as well as further amendments to the *Mining Act* that were required to transition to online claim registrations.
27 This includes identifying constitutional protection for Aboriginal and treaty rights in the purpose statement, requiring Aboriginal consultation in specific circumstances, and creating an Aboriginal communities dispute resolution mechanism.

3. Consultation on and submission of an exploration plan or exploration permit, prior to conducting early exploration activities is now required; and,

4. Free-entry tenure concerns must be addressed (if only partially).

Due to the Ontario *Mining Act* modernization, all lands in southern Ontario with a private surface rights owner (where the Crown owns the mineral rights beneath private lands) are deemed to have been withdrawn,[28] northern Ontario surface rights owners can apply for a withdrawal,[29] notice to a surface rights owner is required once a claim is staked or registered,[30] and claim holders may have to compensate surface rights owners for damages.[31]

Mining claims cannot be registered on certain lands, for example, those that have been withdrawn pursuant to Ministerial order, those used for other public purposes, and First Nations reserves.[32] Further withdrawals from claim staking are possible; for instance, an Aboriginal community can request that the Minister withdraw a site of Aboriginal cultural significance where certain criteria are met. Withdrawal orders for larger areas have been done *ad hoc*, e.g., a large swathe of land was withdrawn around Kitchenuhmaykoosib Inninuwug First Nation, a northern Ontario community that was party to a dispute over exploration activity.[33] Such withdrawal decisions are at the discretion of the Minister.[34] Even though some lands require the Minister of Energy, Northern Development and Mines to consent before registering the claim,[35] ministerial discretion to provide consent after the fact is allowed.[36]

Some environmental considerations are included when an early exploration proponent submits an exploration plan[37] or where exploration permits[38] are issued to conduct early exploration activities.[39] Advanced exploration and mine development only require submission of a certified closure plan.[40] There are public consultation requirements for proposed closure plans under both the *Mining Act*[41] and the Ontario EBR, although these are not subject to third party leave to appeal provisions.[42]

In October 2019, Ontario introduced amendments to the *Mining Act* as part of the omnibus Bill 132 "An Act to reduce burdens on people and businesses" that would require the Director to make decisions to approve closure plans or amendments to closure plans within 45 days.[43] A number of Ontario First Nations are opposing these amendments, stating that they will further limit opportunities for meaningful consultations on advanced exploration and mining projects.[44]

Uniquely, there is no automatic environmental assessment for mine development, as only public undertakings automatically trigger provincial environmental assessment. Private undertakings trigger an environmental assessment only where Ontario has exercised its discretion to require one.[45] Ontario maintains that assessment under the Ontario *Environmental Assessment Act*

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28 Ontario *Mining Act*, s. 35.1(2).
29 Ontario *Mining Act*, s. 35.1(8).
30 Ontario *Mining Act*, s. 46(1).
31 Ontario *Mining Act*, s. 79.
32 Ontario *Mining Act*, s. 30.
33 CBC News: Ontario Bans Mining on Huge Stretch of Land, available online: https://www.cbc.ca/news/canada/thunder-bay/ontario-bans-mining-on-huge-stretch-of-land-1.1135571
34 Ontario *Mining Act*, s. 35(2)(a); see also Ontario Mining Act, General, O Reg 45/11 [Ontario General Regulation], s 9.10.
35 Ontario *Mining Act*, s. 29(1): for example, if seeking to access minerals on lands with summer resorts, residences, cottages, pipeline corridors, airports, etc.
36 Ontario *Mining Act*, s. 29(2).
37 Ontario *Mining Act*, s. 78.2.
38 Ontario *Mining Act*, s. 78.3.
39 Ontario *Mining Act*, *Exploration Plans and Exploration Permits*, O Reg 308/12, s. 1 of Schedules 2 and 3, for plans and permits respectively; exceptions are: (i) work permit for "disruptive mineral exploration activities" under Ontario's *Public Lands Act*, RSO 1990, c P43 and O Reg 349/98, (ii) activities already covered by a filed certified closure plan under Ontario *Mining Act, Exploration Plans and Exploration Permits*, O Reg 308/12, s. 3.
40 See *Ontario Mining Act*, s. 140(1) for advanced exploration and s. 141(1) for mine development.
41 Ontario *Mining Act, Mine Development and Closure Under Part VII of the Act*, O Reg 240/00, [Ontario *Mine Development and Closure Regulation*], s. 8. This includes the manner of notice and the requirement to hold a public information session.
42 See, for example, Ontario EBR Registry Number: 012-8528. To the best of the authors' knowledge, the interpretation that "no appeal exists" has not been challenged.
43 Bill 132: https://www.ola.org/sites/default/files/node-files/bill/document/pdf/2019/2019-12/b132rep_e_0.pdf
44 Matawa First Nations Statement on Hidden Mining Act Amendments, November 6, 2019. http://www.matawa.on.ca/wp-content/uploads/2019/11/MR-Matawa-FNs-Statement-on-Hidden-Mining-Act-Provisions-in-the-Proposed-Better-for-People-Smarter-for-Business-Act-Nov-6-19.pdf
45 Designations are most commonly required for private landfill proposals. There is one "blanket" designation for private infrastructure that is associated with municipal roads, water and wastewater infrastructure: see Ontario Mining Act, *Designation and Exemption – Private Sector Developers*, O Reg 345/93. The Ontario government has not exercised its discretion pursuant to the *Environmental Assessment Act*, RSO 1990, c E18 [Ontario EAA], s. 3(b), to designate private mine developments for mandatory environmental assessment.

(Ontario EAA) typically is not required because mining rights are secured by meeting the statutory requirements of the *Mining Act*, and the disposition of publicly owned minerals is non-discretionary.[46] Current provincial environmental assessments for mining are the result of the mine proponent seeking voluntary agreement with Ontario.[47]

Recently, and for the first time in Ontario, a joint review panel was established for a proposed mine because the proponent sought a voluntary agreement with Ontario and harmonized the review with the federal environmental assessment process.[48]

Another unique feature of the Ontario regime is its EBR.[49] Generally, it requires public notice of any proposed legislation, regulation, policy or instrument,[50] express consideration of feedback received from the public before a government decision is made, and disclosure of the decision – including a summary of how public input impacted the decision.[51] For instruments, there is a third party right to seek leave to appeal the government's decision to the Environmental Review Tribunal.[52] 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 EBR requirements for public consultation and the third party right to seek leave to appeal.[53] This includes water withdrawal permits,[54] water discharge permits,[55] and overall benefit permits.[56] Generally, Ontario EBR requirements are better for consideration of environmental impacts and public input, with the possible exception of joint (harmonized provincial and federal environmental assessment) review panels.

QUEBEC

In Quebec, mining is governed primarily by the recently reformed Quebec *Mining Act*,[57] and is subject to Quebec's general environmental law regime under the Quebec *Environment Quality Act* (Quebec EQA).[58] Implementation of these laws is guided by the 2006 *Sustainable Development Act* (Quebec SDA),[59] which establishes 16 principles that are applied to government decisions and used by courts in reviewing government actions.[60] This sustainable development framework guides major project review by the Bureau of Public Hearings on the Environment (BAPE),[61] an independent office that conducts public hearings on the impacts of major projects.[62]

46 This interpretation, to the best of the authors' knowledge, has not been legally challenged.
47 Mine proponents may be subject to other environmental assessment requirements on a piece-meal basis (e.g., for infrastructure such as roads and electricity transmission).
48 The Marathon Platinum Group Metals and Copper Mine Project, available online: https://www.ontario.ca/page/marathon-platinum-group-metals-and-copper-mine-project.
49 In addition to the public participation rights described herein, the Ontario EBR contains: rights to apply for government review of a law, regulation, policy, or instrument (Part IV) and to apply for a government investigation of compliance with prescribed environmental and natural resource statutes (Part V); whistle blower protections (Part VII); clarification of public standing to bring public nuisance causing environmental harm suits (s. 103); and establishes a cause of action called harm to a public resource (s. 84). As well, it establishes the Environmental Commissioner of Ontario to oversee implementation (Part III). The Environmental Commissioner of Ontario is an office of the Legislature, appointed by an all-party committee (not a government appointment).
50 This term is used in the Ontario EBR to refer to the designated authorizations under various environmental and natural resource management statutes that are subject to mandatory public consultation and consideration by the decision-maker of any comments received.
51 Ontario EBR, Part II – Public Participation in Government Decision-Making.
52 Ontario EBR, s. 38. There is a threshold test for leave to appeal (Ontario EBR, s. 41) and there is an automatic stay of the government's decision (Ontario EBR, s. 42). Judicial review of decisions made pursuant to the Ontario EBR are generally prevented by s. 118.
53 Ontario EBR, s. 32.
54 Pursuant to the *Ontario Water Resources Act*, RSO 1990, c O40 [Ontario WRA].
55 Pursuant to Ontario's *Environmental Protection Act*, RSO 1990, c E19 [Ontario EPA].
56 Pursuant to Ontario's *Endangered Species Act*, 2007, SO 2007, c 6.
57 *Mining Act,* CQLR c M-13.1 [Quebec Mining Act].
58 *Environment Quality Act*, CQLR c Q-2 [Quebec EQA].
59 *Sustainable Development Act*, CQLR c D-8.1.1 [Quebec SDA], s. 1.
60 *Sustainable Development Act,* CQLR c D-8.1.1, s. 6(a)–(p).
61 The BAPE is considered to be, and has the powers of, a public inquiry commission under the *Act Respecting Public Inquiry Commissions*, CQLR c C-37. Section 6 of the *Sustainable Development Act* requires Quebec's "Administration" to take into account the 16 Sustainable Development Principles, which includes the BAPE. See also, "Le role du BAPE," online: https://www.bape.gouv.qc.ca/fr/bape/role-bape/developpement-durable/
62 Bureau d'audiences publiques sur l'environnement, "Guide pour la considération des principes de développement durable dans les travaux des commissions d'enquête du Bureau d'audiences publiques sur l'environnement" (2009), available online: http://www.bape.gouv.qc.ca/sections/documentation/Guide_consid%C3%A9ration_principes_DD_BAPE.pdf

The BAPE process has been in place for over 40 years and has been applied to at least 350 projects,[63] including eight public hearings on mines since 2007.[64]

Revisions to the *Mining Act* came about in 2008 after a coalition of over thirty groups sought a review of the governance framework of the mining sector in Quebec.[65] In 2009, Quebec's Auditor General released a report highlighting the inadequacy of the legislative scheme regarding reclamation and the existence of many contaminated, abandoned sites.[66] Increased public attention to these issues resulted in changes to the Quebec *Mining Act* in 2013, the fourth successive attempt to revamp Quebec's mining regime in as many years.

The Quebec *Mining Act* now contains public interest sustainability principles in its purpose, "to ensure that non-renewable resources are used for the benefit of future generations," and provisions that favour regional expertise and processing.[67] Other key modifications clarified that lands incompatible with mining can be set aside, requiring mandatory public consultations for all metal mines, and lowering the threshold for the most rigorous form of the assessment and permitting process from a maximum daily extractive capacity of 7,000 metric tonnes to 2,000 metric tonnes.

The 2013 modifications also addressed some, but not all, concerns about Quebec's tenure regime which is also founded on outdated free-entry principles. Notice must now be given to owners, tenants and municipalities after a claim is filed on their property.[68] Except on settlement lands under the *James Bay and Northern Quebec Agreement*, no such notice to Indigenous peoples is required for mineral claims staked within their territories.[69] A written authorization from the owners or tenants on private or leased lands is required at least 30 days before any mining work is undertaken. If no agreement is reached, expropriation can proceed; the owner is entitled to 10 percent of the value of the property to pay for professional services to negotiate the agreement. Further, it is not possible to move or demolish a residence before a mining lease is issued.[70]

These revisions provide municipalities with slightly greater powers. In their urban planning, municipalities and regional municipalities can designate zones that are incompatible with mining activities,[71] where claims can only be renewed if works are undertaken. It is no longer possible simply to pay a yearly fee.[72] These reforms partially address concerns about the free-entry system but do not resolve issues pertaining to FPIC for mining on Indigenous lands, especially where there are pre-existing mining claims.[73]

The 2013 amendments anchor mining firmly within the general environmental protection regime, particularly regarding environmental assessments and reclamation. One amendment ensures that mining leases can only be issued after the (discretionary) permits required under the Quebec EQA have been issued. Another specifies that the new reclamation and rehabilitation regime under the Quebec *Mining Act* in no way restricts the application of the Quebec EQA.[74]

If the *Strateco* decision[75] is not overturned on appeal, it may confirm that claims or exploration rights do not automatically result in vested rights to exploit minerals, since further

63 Louis-Gilles Francoeur, "Brief on Bill C-69" (April 5, 2017), available online: http://www.ourcommons.ca/Content/Committee/421/ENVI/Brief/BR9803813/br-external/FrancoeurLouisGilles-9809335-e.pdf [Francoeur Brief].
minier (2009), Tome II, chapitre 2.

64 See online: https://www.bape.gouv.qc.ca/fr/dossiers/?themes=mines#filtres-recherche

65 Coalition Québec Meilleure Mine, available online: http://www.quebecmeilleuremine.org/content/qui-nous-sommes

66 Vérificateur général du Québec, *Rapport du Vérificateur général du Québec à l'Assemblée nationale pour l'année 2008-2009 : Interventions gouvernementales dans le secteur*

67 *Quebec Mining Act*, s. 17.

68 *Quebec Mining Act*, s. 65.

69 See *James Bay and Northern Quebec Agreement (1975); Agreement on Cree Nation Governance - Crees of Eeyou Istchee and the Government of Canada (2018)*. Additionally, government authorization is required for prospecting on reserve land under s. 23 of the Quebec *Mining Act* but does not require notice.

70 Quebec *Mining Act*, s. 235.

71 Quebec *Mining Act*, s. 304.1.1.

72 Quebec *Mining Act*, s. 61; however note, this is a step back from what was proposed in the third mining bill which allowed municipalities to say no to mining exploration even where there are existing claims on a limited portion of their territory, see "Bill no14 : *An Act respecting the development of mineral resources in keeping with the principles of sustainable development*," available online: http://www.assnat.qc.ca/en/travaux-parlementaires/projets-loi/projet-loi-14-39-2.html

73 Coalition pour que le Québec ait meilleure mine, *Résumé des Principales avancées et lacunes de la nouvelle loi sur les mines du Québec* (2014), available online: http://www.quebecmeilleuremine.org/communique/r-sum-des-principales-avanc-es-et-lacunes-de-la-nouvelle-loi-sur-les-mines-du-qu-bec

74 Quebec *Mining Act*, s. 232.12 and s. 101. A lease cannot be entered into before the authorization under Quebec Mining Act, ss. 22, 31,5, 164, or 201 is issued under the Quebec EQA unless there is unreasonable delay.

75 *Ressources Strateco Inc. c. Procureure générale du Québec*, 2017 QCCS 2679. *Strateco* is discussed in greater detail in the FPIC section of this report. Appeals in this matter were heard in June 2019, and a decision is pending.

discretionary authorizations are required under both the *Quebec Mining Act* (mining lease) and the Quebec EQA. Both "whole of government" authorization and specific ministerial authorizations are discretionary and can be denied where a project does not align with sustainability principles.

Recent amendments to the Quebec EQA in 2018 modernized that regime as well. Cumulative impacts, climate change and human health impacts are now considered in project review processes, including mines. In addition, both the Ministry of the Environment, Sustainable Development and Climate Change (Ministry of Environment) and the Ministry of Energy and Natural Resources (Ministry of Natural Resources) issue permitting directives that apply to mining projects. For example, Directive 019 addresses applicable environmental requirements under the Quebec EQA for the mining sector. Directive 019 is likely to be updated to integrate new elements of the mining and environmental law regimes. However, it is important to note that directives are not binding; they function as guidelines setting out expectations related to approvals for mining activities.[76]

YUKON

Hard rock mining in the Yukon (also known as "quartz mining") is regulated primarily under the *Quartz Mining Act* (Yukon QMA),[77] first enacted in 1924. Placer mining is also a significant activity in the Yukon but operates under different legislation and is not expressly considered in this study.

Since 2003, many federal powers have devolved to the Government of Yukon, including jurisdiction over water, forests, and mineral resources.[78] However, there are still areas of overlapping federal jurisdiction, including environmental assessments.[79]

More so than the other jurisdictions considered, the Yukon maintains a robust free-entry tenure system that is in many ways a legacy of the Klondike Gold Rush that defined the settlement of the territory. The Yukon QMA does not require notice or consultation with Indigenous peoples or landowners nor notice prior to the recording of a mineral claim or permitting for what would be considered significant exploration work in other jurisdictions. This system was successfully challenged in 2012 in *Ross River Dena Council v Government of Yukon*,[80] wherein the Yukon Court of Appeal held that a regime that provides for entry, staking, recording of claims, and preliminary exploration without prior consultation with Indigenous peoples is inconsistent with the government's duty to ensure adequate consultation and accommodation under s. 35 of Canada's *Constitution Act*, 1982. The Court of Appeal ruled that the correct time for consultation to occur is prior to the recording of the claim or the carrying out of exploration work. Despite this ruling, amendments to the Yukon QMA in respect of early exploration work were not proposed until 2018.[81]

Further, rather than comply with the prior consultation directives on staking from the 2012 decision, in 2013 the Government of Yukon introduced a moratorium on staking within the traditional territory of the Ross River Dena Council. In 2015, this moratorium was extended to all Kaska lands in the Yukon and is in force until 2020.

Outside of the Kaska territory and that of the White River First Nation, access to and development of land in the Yukon is restricted by Settlement Lands as determined by the terms set out in the Umbrella Final Agreement and each individual Final Agreement with First Nations.

Hard-rock[82] resource exploration and development are governed primarily under the Yukon QMA and the Yukon *Waters Act*.[83] Exploration activities are classified based on impacts – from Class 1 (low-impact grassroots exploration) to Class 4 (likely to have significant impacts). Assessment and permitting, in accordance with the federal *Yukon Environmental and Socio-economic Assessment Act* (YESAA),[84] is required for any Class 2

[76] Minister of Environment, Directive 019 on the mining industry (2012), available online: http://www.mddelcc.gouv.qc.ca/milieu_ind/directive019/directive019.pdf [Quebec Directive 019] at p. 1.
[77] Yukon *Quartz Mining Act*, SY 2003, c 14 [Yukon QMA].
[78] Yukon Government, "Yukon Today," available online: http://www.gov.yk.ca/aboutyukon/yukontoday.html
[79] Bernard Patry on Bill C-6, June 4th, 1996, available online: https://openparliament.ca/debates/1996/6/4/bernard-patry-1/only/
[80] *Ross River,* para 37: "Statutory regimes that do not allow for consultation and fail to provide any other equally effective means to acknowledge and accommodate Aboriginal claims are defective and cannot be allowed to subsist."
[81] Yukon Government, "Amendments to the Quartz Mining Act," available online: http://www.emr.gov.yk.ca/mining/QMAproposal.html
[82] Placer activities, although a significant industry in the Yukon, are regulated under a different regime and are not included in this study.
[83] Yukon *Waters Act*, SY 2003, c 19 [Yukon WA].
[84] *Yukon Environmental and Socio-economic Assessment Act*, SC 2003, c 7 [YESAA].

or greater activities. In certain areas, notice is required for Class 1 activities.[85] The Government of Yukon is consulting with First Nations concerning additional permitting and review processes applicable to them. Most Class 2 and greater exploration programs, and all mining developments, require permits and licences that are in accordance with the Decision Document that results from any YESAA assessment, including a Mining Land Use Permit issued under the Yukon QMA, a Water Licence under the Yukon *Waters Act*, and federal fisheries and navigable waters authorizations. Ancillary permits typically are required and issued under Yukon's *Environment Act*[86] and the *Territorial Lands (Yukon) Act*.[87]

NORTHWEST TERRITORIES

When NWT's first mine was built in the 1930s, mining in the territory was overseen by the federal government and federal legislation. This was the case until 2014, when land and resource management "devolved" to the Government of the Northwest Territories (GNWT) through the signing of the *Northwest Territories Lands and Resources Devolution Agreement* (Devolution Agreement).[88] The Devolution Agreement placed the administration and control of public lands under the jurisdiction of the GNWT, and provided an opportunity for the territorial government to construct its own legislative framework over mineral interests.

Prior to devolution in 2015, the NWT was one of only two jurisdictions in Canada that did not have stand-alone mining legislation. Mineral activity was authorized under regulations pursuant to the *Northwest Territories Lands Act*, which issued claims and other mineral tenures under the free-entry system but did not otherwise regulate mining activity.[89] Similar to the Yukon, such activities are managed under other legislation through a co-management system of regulatory boards and processes. Following devolution, and in accordance with the *Northwest Territories Intergovernmental Agreement on Lands and Resources Management*,[90] Indigenous governments in the NWT were invited to develop jointly a new *Mineral Resources Act*.

The resulting legislation (not yet in force) maintains a free-entry system for governing the disposition of mineral interests but makes several critical reforms.

First, the Mineral Recorders Office is now required to give notice to all Indigenous governments of any pending mineral claims, and proponents are required to submit notices of intended work on claims and leases prior to undertaking exploration activities.[91] Second, the *Mineral Resources Act* introduces new tools to enable the Minister to restrict temporarily the issuance of mineral interests on certain lands and to incentivize it on other lands – both tools to be used in consultation and collaboration with Indigenous governments.[92] Finally, and most notably, in an effort to align interests and ensure the realization of benefits for Indigenous peoples of the NWT, the *Mineral Resources Act* requires benefits agreements for mineral developments prior to commercial production.[93]

While this new regime does not require consent for exploration activities, this legislative requirement for consent in the form of a negotiated benefit agreement prior to development creates powerful incentives for explorationists to build positive relationships and seek FPIC free, prior and informed consent (FPIC) from affected Indigenous peoples at the earliest stages to ensure that later approvals can be acquired.

85 Yukon Government, "Notification of Class 1 Mining Activities," available online: http://www.emr.gov.yk.ca/mining/class_1_notification.html
86 *Yukon Environment Act*, RSY 2002, c 76 [Yukon Environment Act].
87 *Territorial Lands (Yukon) Act*, SY 2003, c 17 [Yukon TLA].
88 2014. Available online: https://www.igcnwt.ca/document/devolution-agreement
89 *Northwest Territories Lands Act*, SNWT 2012, c. 13. only ss. 10 & 19(g) make any reference to mineral interests or rights and the NWT *Mining Regulations* are likely *ultra vires* given the scant authorizing provisions in the *Northwest Territories Lands Act* for the GNWT to enact regulations.
90 Available online: https://www.eia.gov.nt.ca/sites/eia/files/nwt_intergovernmental_agreement_on_lands_and_resources_management_0.pdf *the signatory Indigenous parties to the agreement include parties both with and without settled land claims agreements; namely, the Inuvialuit Regional Corporation, Northwest Territory Métis Nation, Sahtu Secretariat Incorporated, Gwich'in Tribal Council, Tlicho Government, Deninu Kue First Nation, Salt River First Nation, Acho Dene Koe First Nation, and the Kat'lodeeche First Nation.
91 NWT *Mineral Resources Act*, s.42
92 NWT *Mineral Resources Act*, ss.22 & 24, respectively
93 NWT *Mineral Resources Act*, s.52

Community Engagement

Engaging communities at the early stages and throughout mine planning and operation is critical. It helps ensure that the mine, as proposed, is understood and is compatible with the values of those in the community in which the mine will operate. Decision-making around such things as impact assessment, risk assessment, mine footprint options, environmental monitoring and closure planning is more responsive with community input. Engagement helps to avoid conflict and sets up the community to understand that the mine will exist for decades to come. The IRMA Standard in this regard is extensive and seeks to ensure that companies earn community support for mining projects proactively.

Community Engagement Under the IRMA Standard

Chapters 1.2 and 1.4 of the IRMA Standard establish standards for community engagement and grievance mechanisms and remedies for affected communities. The intent of these chapters is to ensure that communities and stakeholders participate in mining-related decisions and have the means to raise and resolve concerns related to a mining project. In addition, extensive community engagement standards, specific to issues such as reclamation and financial security for closure (in the IRMA Standard, Chapter 2.6), encourage mining companies to engage meaningfully throughout the life of a mine.

The IRMA Standard obliges companies to interact with communities in various ways, for example, to:

a) *Identify stakeholders* (including community members, rights holders and others) that may be affected by or interested in its mining-related activities;

b) *Develop, implement and update a stakeholder engagement plan* scaled to the mining project's risks, impacts and stage of development;

c) *Consult with stakeholders* to design engagement processes that are accessible, inclusive and culturally appropriate;

d) *Engage with stakeholders* prior to or during mine planning, continuing through mine life, and to document engagement processes;

e) *Foster two-way dialogue* and meaningful engagement with stakeholders, including reporting back on issues of concern that they raise;

f) *Design and form stakeholder engagement mechanism(s)* to provide them with oversight of the mining project's environmental and social performance;

g) *Offer appropriate assistance* to facilitate effective stakeholder engagement; and

h) *Share information* and communications with stakeholders in a timely manner, and in formats and languages that are culturally appropriate and accessible.

In addition, the IRMA Standard outlines specific grievance mechanism requirements, including that companies:

a) *Provide stakeholders access to an operational level mechanism* that allows them to raise concerns and seek resolution or remedy for the range of complaints and grievances that may occur in relation to the company and its mining-related activities;

b) *Consult with stakeholders* on the culturally appropriate design of complaints and grievance procedures;

c) *Document and make public* all complaints and grievance procedures;

d) *Do not require aggrieved parties to waive their right* to seek recourse from the company for the same complaint through other available mechanisms;

e) *Monitor and evaluate* the performance of the operational level complaints and grievance mechanism;

f) *Provide* stakeholders with clearly communicated *opportunities to submit feedback* on the performance of the complaints and grievance mechanism;

g) *Ensure* that personnel directly involved in the operational level mechanism receive instruction on the respectful handling of all complaints and grievances, including those that may appear frivolous; and,

h) *Periodically report* to stakeholders on grievances received and responses provided in a manner that protects the confidentiality and safety of those filing grievances.

The IRMA Standard also sets out requirements on broad community support, requiring companies to (Chapter 2.3):

a) *Commit publicly* to maintaining or improving the health, social and economic well-being of affected communities, and developing a mining project only if it gains and maintains broad community support;

b) *Demonstrate*, for new mines, *that broad support from communities* affected by the mine was obtained and is being maintained;

c) *Demonstrate*, for existing mines, that the mine has earned and is maintaining *broad community support*;

d) *Develop a participatory planning process* to guide a company's contributions to community development initiatives and benefits in affected communities, which planning process shall be designed to ensure local participation, social inclusion, good governance and transparency;

e) *Provide funding* for mutually agreed upon experts to aid in the participatory process;

f) Try to develop local procurement opportunities, initiatives *that benefit a broad spectrum of the community,* and mechanisms that can be self-sustaining after mine closure; and,

h) *Carry out monitoring* and adaptive management, if required, to ensure the effectiveness of any mechanisms or agreements to deliver community benefits.

Community Engagement in Study Jurisdictions

Community engagement should be an ongoing process, from preliminary stages through to reclamation. Opportunities for community engagement at the initial stages of a project in the jurisdictions under review usually exist, but ongoing public involvement during mine operations or through reclamation and closure is generally not required. Thus, these jurisdictions work toward the IRMA Standard for engagement by dealing primarily with early planning, or environmental assessment. Ontario, which does not even require environmental assessments for mine projects, is the exception. Apart from recent advances in Quebec and the NWT, there is little or no consideration of grievance mechanisms or requirements for community benefits in the laws of the study jurisdictions.

Notably, the requirements under BC law are relatively vague, discretionary, and limited to engagement at the environmental assessment stage – there is no consideration of key issues addressed in the IRMA Standard, such as community benefits or the grievance mechanisms referenced above. Whereas the IRMA Standard anticipates community engagement over the life of the mine, in BC the focus is on community engagement during the mine approval process. While the public engagement requirements for mine review in BC are not always predictable, because of the discretion in the environmental assessment regime, BC's new *Environmental Assessment Act* assumes the establishment of a Community Advisory Committee specifically to provide a community perspective on the potential impacts of a project.[94]

Since Ontario does not require environmental assessments for mine projects, the community engagement that does occur is minimal, either through specific permitting requirements or through the *Environmental Bill of Rights, 1993* (Ontario EBR), a unique requirement in that jurisdiction alone. It establishes notice and leave to appeal requirements for the issuance of certain authorizations (termed "instruments"). This law provides that Ontario residents can seek leave to appeal decisions in certain circumstances, but these are not applied to mine closure plans. Instead, public consultation on mine closure plans generally consists of open houses.

Among the study jurisdictions, Quebec appears to have provisions that meet, or almost meet, the IRMA Standard for community engagement. Elements that reflect this standard are the result of recent legislative changes in that province. Three features of the Quebec regime are worth highlighting.

First, the scope of engagement offered by the BAPE process is more comprehensive than that found in other jurisdictions. The public's questions frame the scope of a BAPE review, allowing for a greater role in the review.[95] This is in contrast to the other study jurisdictions, where mine reviews may be conducted without public hearings, or in the case of Ontario, may not be conducted at all. Quebec also requires proponent-led consultations for smaller mines that would not meet the threshold for the BAPE review – a unique requirement that is not found in other study jurisdictions. While the Yukon and NWT have regimes of similar or greater scope to those provided for by the BAPE, these regimes are the result of modern land claim commitments and decision-making between federal, territorial and Indigenous government authorities that are not directly applicable to provincial regimes.

Second, the 2013 Quebec *Mining Act* amendments require the establishment of monitoring committees for all mines,[96] which is unique to Quebec. This aligns with the environmental and social monitoring component of the IRMA Standard, found in Chapters 1.2 and 2.1. The monitoring committees establish their own grievance mechanisms, thus addressing another aspect of the IRMA Standard. Quebec's discretion has been enhanced as it may issue mining leases conditional on an analysis of the economic benefits of a mining project.[97]

[94] BC *Environmental Assessment Act,* SBC 2019, c 51, s 22.
[95] Louis-Gilles Francoeur, "Brief on Bill C-69" (April 5, 2017), available online: https://www.sencanada.ca/content/sen/committee/421/ENEV/Briefs/Francoeur_e.pdf [Francoeur Brief].
[96] Quebec *Mining Act*, c M-13.1, s 101.0.3.
[97] Quebec *Mining Act*, s 101.0.2.

Emphasis on the full economics and revenue transparency of a mining project, ensuring consideration of provincial or community benefits, is a growing focus in Quebec.

Third, Quebec's unique access to justice provisions enable citizens to enforce relevant laws where environmental harms may occur. The fact that these provisions cap security for damages for environmental injunctions under the Quebec *Environment Quality Act* (Quebec EQA) is a key factor in ensuring broad access to grievance mechanisms.

The Yukon and NWT processes also offer relatively expansive opportunities for public consultation and engagement through the mine development stages, particularly when compared to Ontario and BC. Consultation and engagement opportunities are provided independently of the governments and developers by independent environmental review and regulatory co-management boards with significant community representation. Community-based monitoring for mining projects is also emerging as an outcome of environmental assessment recommendations, discretionary permitting requirements, and Indigenous-led impact-benefit agreement negotiations with proponents but is not currently mandated by legislative requirements.

In contrast, BC residents have little access to dispute resolution mechanisms in respect of environmental decisions. The standing requirements for residents to pursue challenges to BC's Environmental Appeal Board are so narrow as to render this process largely inaccessible to community members.

Finally, while only Quebec has grievance mechanisms that reflect the intent of the IRMA Standard, it is worth noting that the IRMA certification system provides that any IRMA stakeholder or mine site stakeholder can "appeal" to IRMA if they believe that the independent audit results do not reflect the actual performance/achievement of the mine. A formal review mechanism has been established to adjudicate such appeals in a fair and transparent manner.[98]

COMMUNITY ENGAGEMENT SUMMARY

THERE IS PUBLIC ENGAGEMENT THROUGHOUT THE MINE LIFE CYCLE

	IRMA	BC	ON	QC	YT	NT
Prior to mine development	✓	✓		✓	✓	✓
Ongoing, throughout the life of the mine	✓			✓		✓

INFORMATION IS AVAILABLE TO THE PUBLIC

	IRMA	BC	ON	QC	YT	NT
During environmental assessment process	✓	✓		✓	✓	✓
Ongoing, throughout the life of the mine	✓			✓		✓

✓ Meets Partially meets Does not meet

See Appendix A for a detailed description and key features of the framework for Community Engagement in each of the five study jurisdictions.

[98] https://responsiblemining.net/what-you-can-do/complaints-and-feedback/

Environmental Assessment

Environmental Assessment Under the IRMA Standard

The IRMA Standard requires that an environmental and social impact assessment be completed before mining activities commence.[99] Public announcement of the proposed project must be made, and a scoping process to identify all significant social and environmental impacts – including cumulative impacts and potential impacts of extreme events – must be undertaken. As part of the assessment, baseline data is collected and additional studies carried out. Once the relevant information has been compiled, the company must carry out and report on an assessment process that predicts in greater detail the characteristics and significance of the potential impacts, evaluates options to mitigate them (starting with avoidance), and determines the relative importance of residual impacts).[100] The company shall also provide for timely and effective stakeholder consultation, review and comment on the above,[101] and ensure public availability of the data and analyses.[102]

The company must then develop and maintain a system to manage and monitor environmental and social risks and impacts throughout the life of the mine.[103] If requested by relevant stakeholders, the company must facilitate the independent monitoring of key impact indicators where this would not interfere with the safe operation of the project.[104] Concurrently, the company shall encourage and facilitate stakeholder participation, where possible, in the implementation of the environmental and social monitoring program.[105] All program-related data and methodologies, with summary reports of the findings, shall be made publicly available at least annually.[106]

Environmental Assessment in Study Jurisdictions

Meaningful environmental assessment requires not only community engagement, as discussed above, but also a thorough and detailed review of the effects of the proposed project, including plans for ongoing monitoring and oversight.

In BC, environmental assessments are required before mining projects that meet specific thresholds are constructed. Given that the new BC *Environmental Assessment Act* only came into force in December 2019, there has been no practical experience with it yet. The previous BC law included components of the IRMA Standard, such as social considerations and opportunities for input by stakeholders and rights-holders, and follows a similar process of scoping and determination of significance of potential impacts, identification of mitigation measures, and evaluation of residual impacts. The assessment and corresponding data and studies are publicly available as per the IRMA Standard. IRMA requirements, however, exceed those under BC law with respect to stakeholder involvement in the monitoring of project impacts. The old BC *Environmental Assessment Act* (BC EAA) was almost entirely discretionary – leaving it to the BC Environmental Assessment Office (BC EAO) to determine the scope of and process for conducting the assessment, and even the ability to exempt a listed project.

The new BC EAA is designed to restore public faith in environmental assessment. Process-wise, the new Act contains an early engagement phase that will help identify and address issues. There are clearer process requirements, clear criteria for decision-making and more transparency in the review, which will help ameliorate public frustration. The inclusion of a requirement for a Community Advisory Committee, alongside the Technical Advisory Committee, provides new opportunities to enable community engagement in line with the IRMA Standard.[107] Notably, the new BC EAA includes the "effects on current and future generations" as a factor to be considered in every assessment, an innovative consideration that has the potential to make individual assessments more robust.[108]

However, some discretionary elements, like the ability to exempt listed projects from the requirement for an environmental assessment have not been eliminated. Not all reforms have gone as far as hoped. For example, in BC the production of

[99] IRMA Standard, Chapter 2.1.
[100] IRMA Standard, Chapters 2.1.4-2.1.6.
[101] IRMA Standard, Chapter 2.1.9.1.
[102] IRMA Standard, Chapter 2.1.10.1.
[103] IRMA Standard, Chapters 2.1.7-2.1.8.
[104] IRMA Standard, Chapter 2.1.8.3.
[105] IRMA Standard, Chapter 2.1.9.4.
[106] IRMA Standard, Chapter 2.1.10.4.
[107] BC *Environmental Assessment Act*, SBC 2019, c 51, s 22.
[108] BC *Environmental Assessment Act*, SBC 2019, c 51, s 25(2)(f).

≥ 75 000 tonnes of ore per year is the threshold trigger for mine projects.[109] This was an increase over the previous threshold of ≥ 25 000 tonnes that had been in effect until 2002. The production threshold trigger is proposed to remain at ≥ 75 000 tonnes, significantly higher than the threshold trigger for some mines in Quebec, at 2,000 tonnes of ore per year. While the new BC EAA does establish additional mechanisms to identify and designate projects with potential impacts, the thresholds for these new tools may be set too high for them to be applicable to projects that would warrant consideration.[110] However, given that the new BC EAA has just come into force, there is no experience yet with these provisions to evaluate their impact.

To date, BC has never required a hearing for a project, although mines that are also subject to federal environmental assessments have had jointly administered review panel hearings. One of the most contentious mine approval processes in BC was that of the Prosperity Taseko Mine, which proposed the destruction of a lake of special significance to the Tsilhqot'in people. The BC EAO issued an environmental assessment certificate for the mine, but the federal government rejected the proposal following the recommendations of a federal review panel hearing. The company redesigned the project. The redesign was also rejected after a federal review panel hearing in 2014. The company challenged this rejection before the Federal Court, was unsuccessful, and has appealed the decision.[111]

Ontario does not require environmental assessments of mine projects unless the proponent agrees to participate and opts in. In contrast, the Quebec, Yukon and NWT regimes contain detailed environmental assessment requirements that exceed those of BC because they include features discussed in the Community Engagement chapter – the fact of public hearings, scope of review that includes economic indicators, and level of public engagement – rendering these jurisdictions more robust. (While hearing requirements in the new BC regime remain optional, the new tools –such as early engagement, Community Advisory Committees and the broader list of assessment matters – indicate that environmental assessments in that jurisdiction have greater potential now to become IRMA-compliant.) With respect to Quebec, it is notable that the assessment, as with other decisions under Quebec law, is conducted under the Quebec *Sustainable Development Act*'s 16 sustainable development principles, expanding the scope of review beyond the requirements of the IRMA Standard.

Environmental assessments in the Yukon and NWT are undertaken through a co-management regime established under federal law and in accordance with modern land claim agreements. They are overseen by independent boards, jointly appointed by Indigenous and public governments, and operate at arms-length (see Overview, below). There are different review or public hearing requirements, depending on the nature of the proposed mining activity. Thresholds are set in land and water permit regulations, which require pre-screening and formal consultations with affected Indigenous peoples for a range of early and advanced development activities, in contrast to BC and Ontario, where assessments are not triggered until proposed production levels are known.

Overview of Regional Resource Co-management Boards

Modern land claim regimes establish co-management bodies and regulatory organizations with a range of mandates and responsibilities for wildlife and renewable resource management, land use planning, land and water regulation and environmental assessment. The term 'boards' refers to institutions of public government, as well as to co-management and advisory bodies. There are a number of regional boards involved in land and water regulation and environmental assessments in the NWT under the Mackenzie Valley Resource Management Act (MVRMA), while most environmental assessments in the Yukon are coordinated through the Yukon Environmental and Socio-economic Assessment Board (YESAB). Environmental assessments in the Inuvialuit Settlement Region follow processes established through the Inuvialuit Final Agreement.

The boards are broadly responsible for preliminary screening of development proposals, environmental assessments and impact reviews, and the issuance of water licences and land use permits. Most have members nominated by Indigenous organizations, the Government of Canada, and the Governments of the Northwest Territories (GNWT) or the Yukon. The boards are required by statute to operate in the public interest, and to ensure land and water decisions protect the environment from any significant adverse impacts of proposed developments, while considering the economic, social and cultural well-being of Indigenous peoples, residents and communities of the region, and the territory as a whole.†

[109] BC does not propose to change this threshold. BC EAO Reviewable Projects Regulation Intentions Paper, September 2019, p 14.

[110] Two of these mechanisms are the effects thresholds that will be in the new Reviewable Projects Regulation (not released at time of writing), and the notification provisions found in s. 10 of the BC EAA. The notification provision requires that a proponent advise the EAO of a sub-threshold project in order that the EAO may consider whether to designate the project for an assessment. It will also enable the EAO to keep track of sub-threshold projects to evaluate experience with the new process over time.

[111] Taseko Mines Limited v Canada (Environment), 2017 FC 1099 and 2017 FC 1100; Federal Court of Appeal file numbers FCA A-6-18 and A-7-18.

† MVRMA Environmental Assessment Process (credit: NWT Board Forum)

The commitment to public hearings in the Quebec, Yukon and NWT processes is noteworthy. Quebec's Bureau of Public Hearings on the Environment (BAPE) and the YESAB and MVRMA processes are widely perceived as independent, credible and trusted by communities. Hearings and consultations are well-attended and foster real dialogue on issues. Since these processes are independent, rigorous and publicly accessible, they are consistent with the IRMA Standard for the assessment stage.

However, the Yukon and Quebec processes are limited to assessments prior to approval and do not have robust follow-up requiring ongoing environmental and social monitoring programs and public reporting. The NWT regime, which is integrated within the more comprehensive MVRMA land and water permitting regime, offers an example of how ongoing public review of monitoring reports can be achieved.

Each of the study jurisdictions requires consideration of cultural heritage and archaeological factors in their environmental assessments. All of the study jurisdictions meet the requirement of the IRMA Standard 3.7 for cultural heritage.

ENVIRONMENTAL ASSESSMENT SUMMARY

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

	IRMA	BC	ON	QC	YT	NT
Environmental (and social) impact assessment is required for all new mining projects	✓			✓		✓

MONITORING OF ENVIRONMENTAL AND SOCIAL IMPACTS

	IRMA	BC	ON	QC	YT	NT
Monitoring for potential and actual environmental and social impacts is required during the life of the mine	✓			✓		✓
Monitoring for potential and actual environmental and social impacts is required during the life of the mine	✓			✓		✓

✓ Meets Partially meets Does not meet

See Appendix B for a detailed description and key features of the framework for Environmental Assessment in each of the five study jurisdictions.

Free, Prior and Informed Consent

Mining activities frequently are located within the traditional territories of Indigenous peoples. Increasingly, public governments, including Canada and BC, acknowledge the importance of reconciliation, in part through commitments to implement the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP or UN Declaration). The requirement to obtain the free, prior and informed consent (FPIC) of Indigenous peoples prior to approving any mining project affecting their lands, territories and resources (as contained in Article 32) is a "minimum" standard of that declaration.[112] The foundation for the FPIC standard is the recognition of the inherent jurisdiction of Indigenous peoples and their right to self-determination – to be able to make decisions about their own lands and resources, on their own terms. Thus, FPIC of Indigenous peoples where mining development may occur has become a key component of the IRMA Standard. Indeed, the IRMA Standard expects mining companies to conduct due diligence to ensure that host governments have met their obligations to obtain the FPIC of Indigenous peoples.

Free, Prior and Informed Consent Under the IRMA Standard

The IRMA Standard outlines specific requirements with respect to Indigenous peoples' rights and the processes to seek, obtain and maintain their free, prior and informed consent. The IRMA Standard requires companies to:[113]

a) Have a publicly available *policy that includes a statement of respect for Indigenous peoples' rights*, as set out in the UN Declaration, and ensure that potentially affected Indigenous peoples are aware of this policy;

b) Follow *due diligence* to determine whether the host government conducted an adequate consultation process aimed at obtaining Indigenous peoples' informed consent prior to granting access to mineral resources. The findings must be made publicly available, along with a justification for proceeding with a project if the host government failed to fulfill its consultation and/or consent duties;

c) Obtain the *FPIC* of potentially affected Indigenous peoples for new mines and for proposed changes to mining-related activities that may result in new or increased impacts on Indigenous peoples' rights or interests;

d) *Cease to pursue proposed activities* affecting the rights or interests of Indigenous peoples *if they indicate that they do not wish to proceed* with FPIC-related discussions;

e) Identify capacity issues that may prevent full and informed participation of Indigenous peoples and *provide funding or facilitate other means* to enable them to address those issues in their preferred manner;

f) *Abide by any FPIC policy* that the Indigenous nation or government has in place or under development;

g) *Report publicly*, and in a manner agreed to by the Indigenous peoples, on the FPIC process that was followed and its outcome;

h) *Enter into an agreement*, if consent is obtained, with the Indigenous nation or government outlining the terms and conditions thereof, which agreement shall be made publicly available unless otherwise requested by the nation or government;

i) Collaborate with Indigenous peoples to *monitor implementation of the FPIC agreement*; and,

j) *Engage* with Indigenous peoples *throughout all stages of the mining project*.

The IRMA Standard also generally prohibits companies from removing, significantly altering or damaging critical cultural heritage. Where impacts may occur to the critical cultural heritage of Indigenous peoples, companies must negotiate with them through the FPIC process outlined above, unless otherwise specified by the affected Indigenous party.[114]

112 UN General Assembly, *United Nations Declaration on the Rights of Indigenous Peoples: Resolution / adopted by the General Assembly*, 2 October 2007, A/RES/61/295, available online: https://www.refworld.org/docid/471355a82.html [UNDRIP], Articles 32 & 43.
113 IRMA Standard, Chapter 2.2.
114 IRMA Standard, Chapter 3.7.5.1

Free, Prior and Informed Consent in Study Jurisdictions

The IRMA Standard requires companies to obtain FPIC from affected Indigenous communities, and even places an obligation on them to ensure that public or host governments have met this consent standard as well. Where projects proceed without FPIC, meaning consent has not been secured, companies are to justify the development. While this requirement is unlikely to be legislated, it is a critical indicator of the importance of this measure to the IRMA framework.

The minimum legal requirement in the study jurisdictions is the Crown or public government obligation to respect Aboriginal and treaty rights protected under s. 35 of the *Constitution Act*, 1982.[115] Despite steady advances in recognition of Indigenous rights by Canadian courts, and the stated commitment of governments, such as BC and Canada, to implement the UN Declaration, mining laws in the study jurisdictions generally do not exceed this minimum legal requirement, which does not achieve FPIC.

Consultation with Indigenous peoples is measured by common law standards, and advances in Indigenous recognition and jurisdiction continue to be earned largely through litigation regarding the adequacy of consultation and title claims. Under current legal regimes, lack of FPIC from affected Indigenous peoples is not a bar to mine project development, and there are numerous examples, particularly in BC, where the government has granted project approvals despite significant opposition. One such example is Taseko's Prosperity Mine. The consequences of unilateral government decisions often play out in the courts.[116, 117]

There are limited examples that show engagement that meets the IRMA consultation standard. The best examples of engagement among the study jurisdictions are found in the Yukon, NWT and northern Quebec, where well-established, comprehensive modern treaty regimes cover a significant portion of each jurisdiction. Under modern treaties, Indigenous peoples are able to exercise authority over the use of a significant portion of their traditional lands and wield influence over the remainder. Treaties do not, however, in and of themselves satisfy FPIC. Free, prior and informed consent can only be satisfied in situations where meaningful consent is sought and obtained from the affected Indigenous nation. Where they exist, treaties can provide important procedural and substantive guidance on how FPIC can be achieved in a particular circumstance.

Perhaps the most significant FPIC development in Canada is the passage of the BC *Declaration on the Rights of Indigenous Peoples Act* in November 2019. This new law requires that BC "take all measures necessary to ensure the laws of British Columbia are consistent" with the UN Declaration.[118] It requires government action plans to harmonize provincial laws with the UN Declaration and annual reporting to evaluate progress to that end. It also enables decision-making agreements with Indigenous governing bodies as a means to achieve FPIC. This is a major step toward reconciliation; it implements BC's principles to guide its relationship with Indigenous Peoples.[119] It will be important to ensure that these new legal requirements apply equally and promptly to activities that have implications for Indigenous rights and title, such as mining.

In addition, the BC *Environmental Assessment Act* (BC EAA), which came into force in December 2019, is now more FPIC-compliant than the laws of any other study jurisdiction with respect to how an environmental assessment is conducted. In that context, the BC Environmental Assessment Office (BC EAO) is required to "seek to achieve consensus" with the affected First Nations at key process points in the assessment,[120] and establish a role for nations throughout the review process, including an option for Indigenous nations to conduct an assessment.[121] Where consensus cannot be achieved, the BC EAO establishes a dispute resolution process designed to resolve outstanding issues.[122] It is also noteworthy that the BC EAA obliges the BC EAO to support reconciliation with Indigenous peoples by supporting the implementation of the UN Declaration.[123] While the law falls short of full Indigenous decision-making, it is a significant legislative development that reflects the intent of FPIC.

115 *The Constitution Act,* 1982 s 35.
116 Boyd, B. and Lorefice, S. (2018). Understanding consultation and engagement of Indigenous Peoples in resource development: A policy framing approach. *Can Public Admin*, 61: 572-595. doi:10.1111/capa.12301.
117 Lambrecht, K. (2013). *Aboriginal Consultation, Environmental Assessment, and Regulatory Review in Canada*. Regina, SK: University of Regina Press.
118 BC Legislature, 2019, Bill 41, *Declaration on the Rights of Indigenous Peoples Act.*
119 Government of British Columbia, "Draft Principles that Guide the Province of British Columbia's Relationship with Indigenous Peoples" (2018), available online: https://www2.gov.bc.ca/assets/gov/careers/about-the-bc-public-service/diversity-inclusion-respect/draft_principles.pdf
120 See for example, BC *Environmental Assessment Act,* SBC 2019, c 51, ss. 16(1), 19(1), 29(3) & 32(7).
121 See for example, BC *Environmental Assessment Act*, SBC 2019, c 51, ss 19(4) and s 41.
122 BC E*nvironmental Assessment Act*, SBC 2019, c 51, s 5.
123 BC *Environmental Assessment Act*, SBC 2019, c 51, s 2(2)(b)(ii).

However, the new BC EAO framework applies only to the environmental assessment phase of the project. It does not affect the initial (and arguably unconstitutional) free-entry mineral tenure process in which mineral rights are acquired without consultation, much less FPIC. Nor does it apply to permitting under the BC *Mines Act*, whereby consultation rather than FPIC is engaged.

In Ontario, policies are directed at meeting the constitutionally required minimum consultation standard and, where necessary, accommodating potentially affected Aboriginal and Treaty rights rather than seeking to achieve FPIC. Such engagement is directed by the Crown to satisfy Crown obligations to potentially affected communities (as identified by the government) and does not necessarily accord with the interests or objectives of the communities themselves.

Quebec law also falls short of FPIC and is limited to meeting constitutional consultation requirements. However, Quebec's "sustainability"-based regime is broad enough to allow for FPIC-compliant outcomes, as it authorizes the government to refuse a project because of Indigenous opposition. It does not, however, mandate FPIC-compliant processes or outcomes except in the modern treaty regimes, which are more specific in some respects than the IRMA Standard. There have been situations in both Quebec and Ontario in which the government either has refused to grant project authorizations or has compensated proponents to withdraw their applications in circumstances where First Nations oppose projects.

In the *Strateco* case, for example, the Minister of Environment refused to authorize the proponent to undertake advanced exploration for a uranium mine in Mistissini Cree territory, within the area subject to the James Bay and Northern Quebec Agreement. The decision was upheld by the superior court in 2017, after the proponent sued the Quebec government.[124] While the court was careful to specify that Quebec law, including the treaty, does not include a veto right for the Cree except on Category 1 (wholly owned settlement lands) the court accepted the government's refusal to issue the authorization on the grounds that the project lacked social licence. If the court's reasoning, based on the Quebec *Sustainable Development Act* rather than the treaty regime, is upheld on appeal, it could extend to activities in the south, impacting First Nations without treaties and, potentially, non-Indigenous communities.[125]

The regimes in the Yukon and the NWT also fall short of the IRMA Standard. As in Quebec, on settlement lands where Indigenous governments and organizations hold full title over the surface and subsurface resources, they are able to fully regulate access and development. No exploration or resource extraction can occur without the authorization of the applicable Indigenous government or settlement corporation.[126] Outside of such lands, access for mineral exploration must be granted, subject to terms that are either negotiated or established by a surface rights tribunal.[127]

Only 8.5 percent of Yukon's total land area is settlement land and settlement land that includes subsurface title is a small portion of that.[128] The proportions in the NWT are similar.[129] All other lands not included as settlement lands in a modern treaty are subject to laws of general application, although the rights of participants to use those lands are protected by the treaty and are subject to varying degrees of consultation and accommodation.

Significantly, the NWT has now passed a new *Mineral Resources Act*, co-drafted with Indigenous governments, that requires benefit agreements to be concluded between mine developers and affected Indigenous communities before a production licence may be issued. While this new regime does not require FPIC for exploration activities, the requirement for FPIC prior to development creates powerful incentives for explorationists to obtain the free, prior and informed consent (FPIC) of Indigenous peoples at the earliest stages to ensure that later approvals can be acquired.

124 *Ressources Strateco Inc. c. Procureure générale du Québec,* 2017 QCCS 2679.

125 Quebec SDA, s 1; see also *Ressources Strateco Inc. c. Procureure générale du Québec*, 2017 QCCS 2679, para 444.

126 Not all modern treaties provide for self-government. Indigenous self-governments are able to regulate mineral development where they have jurisdiction. See, for example, the *Land Claims and Self-government Agreement among the Tlicho and the Government of the Northwest Territories and the Government of Canada*, Chapter 7, available online: https://www.aadnc-aandc.gc.ca/DAM/DAM-INTER-HQ/STAGING/texte-text/ccl_fagr_nwts_tliagr_tliagr_1302089608774_eng.pdf. Other modern treaties provide for ownership rights to minerals that are vested in settlement corporations. Such settlement corporations do not have jurisdiction to pass laws but can grant or withhold consent and establish terms and conditions for exploration and development because they own the resource. See, for example, Chapter 7 of the *Western Arctic Claim: The Inuvialuit Final Agreement*, available online: http://www.eco.gov.yk.ca/pdf/wesar_e.pdf

127 The NWT Surface Rights Board, available online: https://nwtsrb.ca/about-us, and the Yukon Surface Rights Board, available online: https://www.yukonsurfacerights.com, arbitrate disputes over access to subsurface resources on settlement lands.

128 Yukon Government, "About Yukon First Nations," available online: http://www.eco.gov.yk.ca/aboriginalrelations/maps.html

129 See Settlement Areas and Asserted Territories in the NWT, available online: https://www.enr.gov.nt.ca/sites/enr/files/land_claim_map.pdf

FREE, PRIOR AND INFORMED CONSENT SUMMARY

FREE, PRIOR AND INFORMED CONSENT OF INDIGENOUS PEOPLES

	IRMA	BC	ON	QC	YT	NT
Free, prior and informed consent of Indigenous peoples is required before a new mine can be developed	✓	*✓*				

✓ Meets Partially meets Does not meet

* ✓ * BC's *Declaration on the Rights of Indigenous Peoples Act* establishes a framework for FPIC but does not yet mandate it.

See Appendix C for a detailed description and key features of the framework for Free, Prior and Informed Consent (FPIC) in each of the five study jurisdictions.

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. 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.

Biodiversity, Ecosystem Services and Protected Areas Under the IRMA Standard

The IRMA Standard requires consideration and mitigation of the impacts of mining on biodiversity and ecosystem services, threatened and endangered species, and protected areas.[130] To accomplish this, the IRMA Standard requires companies to carry out the following:

a) screening of potential impacts;

b) impact assessments;

c) management planning (incorporating adaptive management);

d) mitigation measures (via a defined mitigation hierarchy); and,

e) monitoring of the implementation of management plans (along with corrective actions, where required, based on monitoring results). This monitoring is to be independently reviewed

All of this is to be done in consultation with stakeholders, including affected communities, and with public access to the corresponding data and reports.

Application of Biodiversity, Ecosystem Services and Protected Areas in Study Jurisdictions

While the IRMA Standard for these metrics is brief, it has significant implications for the protection of the environment from mining impacts. Distinct from the Environmental Assessment section in this report, this chapter evaluates biodiversity, ecosystem services and protected areas requirements, which operate independently of environmental assessment requirements.

Of all the study jurisdictions, Quebec meets, more than any other, the spirit of the IRMA Standard regarding biodiversity – given its broad sustainable development principles, legislated protections for endangered species, and the potential of the monitoring frameworks described in the Community Engagement chapter of this report. Quebec's legal framework encompasses biodiversity protection, respect for ecosystem services[131] and a quasi-constitutional right to biodiversity preservation.

Beyond that, guaranteed protections in the study jurisdictions are few, given that mining uses have been prioritized over other land uses since mining regulation began, and given the discretion afforded to regulators. Though all the jurisdictions have legislative regimes to prohibit claim staking and mine development in protected areas or parks, this often means, in practice, that environmental values rarely prevail over mining. Also, the regimes generally contain provisions to protect prior mining rights should there subsequently be a park or protected area designation.

Both BC and Quebec allow for the termination of mining rights for park creation and Exceptional Forest Ecosystem designations, respectively.

Notably, only Ontario, Quebec, and the NWT have passed laws expressly to protect endangered species. The benefit permit provisions in the Ontario *Endangered Species Act, 2007* [132] are relatively strong, arguably allow for some management planning with respect to certain species and are consistent with the IRMA Standard. The Ontario Minister of the Environment, Conservation and Parks sets conditions on an overall benefit permit, including financial assurance and monitoring,[133] encouraging proponents to find creative solutions and alternatives to negative biodiversity impacts.

No jurisdiction requires independent monitoring of implementation of mitigation measures over the life of a mine, though the committees being implemented in Quebec legislation, and

[130] IRMA Standard, Chapter 4.6.
[131] Quebec *Sustainable Development Act*, ss. 6(i), (j), (k), (l) & (m).
[132] Ontario *Endangered Species Act* SO 2007, c 6.
[133] Ontario *Endangered Species Act, 2007*, s 17(5).

in the NWT through the *Mackenzie Valley Resource Management Act* (MVRMA) regime, approximate this component of the IRMA Standard.

In BC, part of the IRMA Standard is achieved because legislation places restrictions on mining activities within reserved areas. From a permitting perspective, BC has prepared guidance that addresses components of ecosystem and biodiversity services in the BC *Mines Act* permitting process.[134] However, these provisions are not mandatory and therefore not consistently applied across the province.

In Ontario, there are no requirements to address biodiversity or ecosystem services impacts from mining, except to listed threatened or endangered species. In this case, the overall benefit permits authorization process under the Ontario *Endangered Species Act* is mostly consistent with the IRMA Standard.

In Quebec, mining prohibitions in established protected areas under the *Natural Heritage Conservation Act*,[135] and potentially under the *Sustainable Forest Development Act*, are consistent with the IRMA Standard. The Quebec Environment Quality Act (Quebec EQA) regulates the full life cycle of projects. Its sustainable development principles emphasize biodiversity and ecosystem services protection, though the IRMA Standard is more stringent. Quebec's Plan Nord, a plan to "develop" the northern part of the province where most mining activities occur, would include setting aside 50 percent of the region for environmental protection and biodiversity preservation. This could be significant in achieving the IRMA Standard if consistently applied across the landscape.

Yukon law provides opportunities for protection of designated areas, biodiversity and ecosystems that are discretionary, exempt mining, and prioritize resource development. For example, the Yukon *Parks and Land Certainty Act* states that when deciding whether to establish a park, the government shall "consider the means of minimizing the impact of establishment of the park on the current and future resource developments." The Yukon regime falls short of the IRMA Standard, although, as noted elsewhere, discretion arguably could be exercised to achieve IRMA Standard-compliance.

In the NWT, the MVRMA regime gives priority to approved land use plans that typically include large areas zoned for the protection of cultural and ecological values. Under Part 2 of the MVRMA, an approved land use plan is binding on all governments.[136] Land expressly zoned to exclude mineral exploration and development activity cannot be staked or developed unless a variance is sought. Additionally, lands designated as candidate territorial parks or federally protected areas typically are withdrawn from mineral disposition during the study period and are expressly protected from mineral exploration and development once established. The NWT also has a robust *Wildlife Act* which along with the territorial Species at Risk Act regime provides significant protection for biodiversity and species at risk.

BIODIVERSITY, ECOSYSTEM SERVICES AND PROTECTED AREAS SUMMARY

PROTECTIONS FOR ENDANGERED SPECIES, BIODIVERSITY AND ECOSYSTEM SERVICES

	IRMA	BC	ON	QC	YT	NT
Mines must identify important biodiversity values (e.g., endangered species, critical habitat, key biodiversity areas) and ecosystem services that may be affected by mining-related activities and develop mitigation measures to protect them.	✓			✓		✓

✓ Meets Partially meets Does not meet

See Appendix D for a detailed description and key features of the framework for Biodiversity, Ecosystem Services and Protected Areas in each of the five study jurisdictions.

[134] Joint Application Information Requirements for *Mines Act* and *Environmental Management Act* Permits (February 2016), available online: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/permitting/minesact-ema_application_information_requirements_feb2016.pdf

[135] *Quebec Natural Heritage Conservation Act,* CQLR c C-61.01 [Quebec NHCA], ss. 2, 34(1)(f) & 46(1)(c).

[136] *Mackenzie Valley Resource Management Act,* s. 46(1).

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 IRMA Standard regarding water use and protection is extensive, rightly so, given the well-documented risks to water resources from mining.

Water Management Under the IRMA Standard

The IRMA Standard requires companies to identify water users, water rights holders and other stakeholders who may be affected by their mine water management practices, and then to work with them to identify current and potential future uses of water, and shared water challenges and opportunities.[137] Companies must take steps to contribute positively to local and regional water stewardship outcomes.

Companies must also gather baseline or background data to determine reliably the seasonal and temporal variability in the physical, chemical and biological conditions of surface waters, natural seeps/springs and ground waters, as well as water quantities that may be affected by the mining project.[138]

Having collected this baseline information, mining companies must then carry out a scoping process, in collaboration with relevant stakeholders, to identify potentially significant impacts that the mining project may have on water quantity, quality and current and potential future water uses.[139] Where potential significant impacts have been identified, the company must carry out additional analyses to further predict and quantify the potential impacts. This includes developing: a conceptual site model to estimate the potential for mine-related contamination to affect water resources; a numeric mine site water balance model to predict impacts that might occur at different surface water flow/groundwater level conditions; and to predict whether water treatment will be required to mitigate impacts on water quality during operations and mine closure/post-closure.[140] These models and predictive methods must be consistent with industry best practice and be revised and updated over the life of the project.

Based on these analyses, the company must evaluate, in collaboration with stakeholders, options to mitigate impacts,[141] and follow prescribed processes where a surface water or groundwater mixing zone is proposed as a mitigation strategy.[142] Waters affected by the mining project must be maintained at a quality and quantity that enables safe use for current purposes and for the potential future uses identified in collaboration with relevant stakeholders.[143] The company must also develop a program to monitor changes in water quantity and quality, with stakeholders from affected communities invited to participate in the monitoring.[144]

Concurrently, the company must develop an adaptive management plan, with specified indicators and thresholds outlined, including the corrective action those indicators and thresholds trigger.[145] The company also must review and revise the plan annually, if necessary, with the involvement of community stakeholders.[146] Baseline or background data, and monitoring data on water quantity and quality, must be published.[147] In addition, the company must develop effective procedures to communicate quickly with relevant stakeholders if changes in water quantity or quality pose an imminent threat to human health or safety, or commercial or natural resources.[148]

With respect to cyanide, the company must become a signatory to the Cyanide Code or implement prescribed cyanide

[137] IRMA Standard, Chapter 4.2.
[138] IRMA Standard, Chapter 4.2.2.1.
[139] IRMA Standard, Chapter 4.2.2.3.
[140] IRMA Standard, Chapter 4.2.2.3.
[141] IRMA Standard, Chapter 4.2.3.1.
[142] IRMA Standard, Chapter 4.2.3.2.
[143] IRMA Standard, Chapters 4.2.3.3, 4.2.3.4.
[144] IRMA Standard, Chapters 4.2.4.1, 4.2.4.3.
[145] IRMA Standard, Chapter 4.2.4.4.
[146] IRMA Standard, Chapters 4.2.4.5, 4.2.4.6.
[147] IRMA Standard, Chapter 4.2.5.1.
[148] IRMA Standard, Chapter 4.2.5.2.

management practices (if ineligible to become a signatory to the Cyanide Code).[149] The company must also implement prescribed design criteria, including properly sized impermeable secondary containments and spill control measures for pipelines containing process water or process solution.[150] The company must ensure that discharges to a surface water mixing zone do not contain cyanide that will be lethal to resident aquatic life or interfere with the passage of migratory fish.[151] Cyanide monitoring must also be carried out, along with public reporting of monitoring results.[152]

Finally, for sites that have mercury-containing materials, the company must perform a mercury mass balance that assesses and documents the amount of mercury in waste rock, ore and tailings, and the amount of mercury during or after processing.[153] Prescribed mercury control, storage, and monitoring processes must be followed, and a monitoring plan must be prepared in consultation with relevant stakeholders, with monitoring results reported publicly.[154]

Water Management in Study Jurisdictions

Water management regimes in each of the study jurisdictions are detailed and distinct, engaging other regulatory frameworks and guidance. Because the impact of mining on water is a key concern, jurisdictions generally consider IRMA matters in their legal regimes, though to varying degrees. For the purpose of this chapter, the IRMA water standards above can be grouped into three categories: data gathering; regulating to protect water; and, monitoring and reporting. General comparisons for each are described below.

1. Data gathering

The water licensing regimes in all the study jurisdictions require detailed applications for licences or approvals. The NWT, Ontario and Quebec regimes regulate for cyanide and mercury, but BC and Yukon do not.[155] The NWT and BC requirements move towards IRMA Standard-compliance by requiring information about existing water users and address environmental flows in relation to changes in and about a stream when considering water licences.[156]

2. Regulating to protect water

All the jurisdictions considered have separate permitting regimes for water use and water discharges.

The *Health, Safety and Reclamation Code for Mines in British Columbia* (BC HSR Code) outlines specific water protection requirements for hard-rock exploration activities which generally align with the IRMA Standard. It specifies water quality standards in mine permits and/or other authorizations (such as air and water discharge permits), but these tend to be site-specific rather than legislated standards consistently applied across the province and are subject to change from time to time by way of permit amendments.

Ontario law requires that qualified professionals "certify" the frequency and applicability of monitoring of hazardous substances, including cyanide, arsenic, lead and mercury. Moreover, the *Environmental Bill of Rights, 1993* (Ontario EBR) provisions also apply to most permits for water discharges, providing additional transparency to the permitting process.

Quebec's regime has general prohibitions on contaminant releases, and promotion of watershed management and wetlands protection. Indeed, this may be more stringent than the IRMA Standard, which will allow impacts to water if agreed upon by stakeholders, whereas Quebec's prohibition would not. In other respects, the IRMA Standard sets a higher bar by requiring adaptive management and giving notice to local communities of imminent threats to water resources at the project level.

In the Yukon, all requirements regarding the use of and treatment of water associated with a mining development will be subject to detailed permitting requirements imposed by co-management boards. This is largely accomplished through environmental assessment Decision Documents issued by the Yukon Environmental and Socio-economic Assessment Board (YESAB), which will generally have incorporated the extensive requirements for review and permitting under the Yukon Water Board. However, there are no prescribed processes, as described in the IRMA Standard, regarding evaluation, monitoring, implementation, or publishing of water quality results.

149 IRMA Standard, Chapter 4.7.1.2.
150 IRMA Standard, Chapter 4.7.2.1.
151 IRMA Standard, Chapter 4.7.3.1.
152 IRMA Standard, Chapters 4.7.4.1-4.7.5.2.
153 IRMA Standard, Chapter 4.8.1.1.
154 IRMA Standard, Chapters 4.8.2.1- 4.8.4.1.
155 It may be that these jurisdictions have left this to the federal *Metal Mining Effluent Regulations* under the *Fisheries Act*, which set standards for effluent released from metal mines into the environment, including for concentrations of cyanide and mercury.
156 IRMA Standard, Chapter 4.2.1.1.

Conditions of licences and the Decision Document may set out limits regarding cyanide and mercury content, among other substance restrictions, but there is no requirement that companies be signatories to the Cyanide Code. Adaptive management plans may be required for mining operations at the discretion of the regulator. This is particularly problematic in the Yukon context, where many mines are placer operations with extensive in-stream operations and associated water use requirements.

In the NWT, water use is closely regulated within the integrated system of land and water management established under the *Mackenzie Valley Resource Management Act* (MVRMA). The co-management boards operate independently from government and determine the conditions for water permitting. In most instances, water permits for exploration will trigger preliminary screenings, and mining operations will trigger environmental assessment and review hearings before the boards for new projects and for water licence renewals. Water licence holders are required to carry out ongoing monitoring and public reporting, and government inspectors have extensive powers to carry out investigations and issue compliance orders or administrative penalties.

The IRMA Standard sets onerous requirements for consulting with local communities and stakeholders on planning long-term water goals and protection measures, evaluating and monitoring potential impacts, and notifying communities of imminent threats to water resources. BC's water regime is relatively transparent in this regard, especially concerning impacts to water from mining activities.

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, which is less than the IRMA Standard of publication. Since 2013, data is readily available regarding permitted water withdrawals. However, only water withdrawal and discharge approvals, which are authorized under statutes other than Ontario's *Mining Act*, and generally subject to the Ontario EBR provisions, meet the IRMA Standard for water resources protection.

Quebec meets the IRMA Standard for consulting with local communities and stakeholders on planning long-term water goals and protection measures through its regional watershed framework which engages communities in the development of water master plans for their respective regions. Quebec law requires the creation of watershed bodies to develop water master plans with Indigenous and stakeholder input that could ultimately set conditions for approved projects, including mines.[157]

While the IRMA Standard requires greater transparency in disclosing water impacts from mining activities than the Quebec mining law framework, the Quebec *Environment Quality Act* amendments on public disclosure of all contaminants discussed in the Community Engagement chapter of this report will prove useful if implemented effectively.

Of the jurisdictions reviewed, the NWT has the most robust regime for monitoring and reporting water impacts from mining activities and is IRMA Standard compliant in most respects.

[157] Quebec EQA, *Act to affirm the collective nature of water resources and to promote better governance of water and associated environments,* CQLR c C-6.2 [Quebec Collective Nature of Water Resources Act], ss. 1 & 14. See also, « Les organismes de bassins versants », available online: https://robvq.qc.ca/obv

WATER MANAGEMENT SUMMARY

WATER QUALITY DATA

	IRMA	BC	ON	QC	YT	NT
Regulatory standards exist for mitigation and monitoring to protect waters that may be contaminated by mine wastes	✓	✓	✓	✓	✓	✓
Mines must monitor and disclose to the public information on concentrations of contaminants released to water from mining activities	✓		✓			
Mines must implement a program to monitor changes in water quality and quantity over the life of the mine	✓		✓		✓	✓
Surface and groundwater must meet defined water quality criteria for metal and non-metallic constituents that pose risk to human health or environment	✓			✓		✓
Data on surface and groundwater quality and quantity must be published annually or at frequency agreed by stakeholders	✓	✓				✓

✓ Meets Partially meets Does not meet

See Appendix E for a detailed description and key features of the framework for Water Management in each of the five study jurisdictions.

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.

In August 2014, the dam holding over 25 billion litres of tailings waste from Imperial Metals' Mount Polley gold and copper mine collapsed. Prior to this, inspection reports had identified unreported cracks in perimeter walls, broken instruments for measuring water pressure, and failure to develop adequate or detailed monitoring or emergency plans for tailings breaches. The breached mining waste included arsenic, lead, mercury, selenium and phosphorous. Over the following four years, millions of dollars were spent in rehabilitation, much of that by government departments.[158] But local communities remain concerned that the waterways have not been cleaned of tailings waste, with some waterways predicted to take up to 1,000 years to return to their pre-failure state.[159] This mishap has devastated lakes and waterways and the core failing is related to the mine waste management plan. No charges or fines were laid against the company for this catastrophe, although an investigation for violations of the federal *Fisheries Act* remains outstanding, and disciplinary proceedings by the Engineers and Geoscientists of BC against three individuals involved were commenced in September 2018. Imperial Metals applied for and received a permit to re-open the mine but has subsequently shut down operations. In 2017, a permit to discharge effluent directly into Quesnel Lake was granted.

When reviewed against the backdrop of the Mount Polley mine tailings dam collapse, the critical importance of the IRMA Standard that seeks to ensure transparent and technically rigorous mine waste management becomes clear.

Waste Management Under the IRMA Standard

The IRMA Standard outlines various requirements for companies to manage mine waste, including that companies must do the following: [160]

a) *Develop a policy for managing waste materials and mine waste facilities* in a manner that eliminates (if practicable, and otherwise minimizes) risks to human health, safety, the environment and communities – which policy is to be approved by senior management and endorsed at the company's governance level. Processes and a sufficient budget must be in place to ensure that employees can implement it effectively;

b) *Maintain inventory of all materials, substances and wastes* associated with the mining project that have the potential to have impacts on human health, safety, the environment or communities, and *document and implement procedures* for their safe transport, handling, storage and disposal;

c) *Perform and periodically update detailed characterizations* in accordance with industry best practices for each mine waste facility that has associated chemical risks;

d) *Implement risk-based approaches to mine waste assessment and management* early in the life cycle that evaluate the potential impacts of mine waste facilities on health, safety, environment and communities;

e) *Carry out and document alternatives assessments* to inform mine waste facility siting and selection of waste management practices, and *consult with stakeholders* during such assessments and prior to the finalization of the design of the facilities;

f) *Carry out mine waste facility design and mitigation* of identified risks consistent with best available technologies and best available/applicable practices;

g) *Develop and update as required an Operation, Maintenance and Surveillance manual* (or its equivalent) aligned with the performance objectives, risk management strategies, critical controls and closure plan for the facility;

h) *Evaluate the performance of mine waste facilities* regularly;

i) *Implement an annual management review* to facilitate continual improvement of tailings storage facilities and all other mine waste facilities where the potential exists for contamination or catastrophic failure that could impact human health, safety, the environment or communities;

158 See "British Columbians Saddled With $40 Million Clean-Up Bill as Imperial Metals Escapes Criminal Charges," available online: https://thenarwhal.ca/british-columbians-saddled-40-million-clean-bill-imperial-metals-escapes-criminal-charges

159 See "Acid mine drainage: past, present…future?," available online: https://uwaterloo.ca/wat-on-earth/news/acid-mine-drainage-past-presentfuture

160 IRMA Standard, Chapter 4.1.

j) *Ensure that reviews are carried out by independent review bodies,* which may be composed of a single reviewer or several individuals; at high-risk mine waste facilities the independent review body shall be composed of a panel of three or more subject matter experts;

k) *Develop and implement an action plan* in response to commentary, advice or recommendations from an independent review, *document* a rationale for any advice or recommendations that will not be implemented, and *track progress* of the plan's implementation; and,

l) *Discuss and prepare,* in consultation with potentially affected communities and workers, *emergency preparedness and response plans* or emergency action plans related to catastrophic failure of mine waste facilities.

Finally, the IRMA Standard also prohibits the use of riverine, submarine or lake disposal for mine waste materials.[161]

Waste Management in Study Jurisdictions

All study jurisdictions have detailed regimes for mine waste and material management but key components of the IRMA Standard are still missing. While the IRMA Standard prohibits riverine, submarine and lake disposal of mine waste, four of the study jurisdictions enable it; thus, it is up to individual jurisdictions to implement the higher standards.[162] Only Quebec prohibits the riverine, submarine or lake disposal of mine waste.

The fact that BC has not instituted such a prohibition, given both the Mount Polley disaster and ongoing concerns about the Prosperity and New Prosperity mine proposals on Tsilhqot'in territory, discussed in the Environmental Assessment chapter of this report, is deeply concerning. Quebec's Directive 019 expressly prohibits riverine, submarine or lake disposal, but it is not a regulation.[163] Thus, while a proponent could apply to dispose of mine waste in this way, it would most likely be rejected, although it has been permitted in the past.

Following Mount Polley, BC established an Independent Expert Engineering Panel. Its 2016 report made recommendations to protect against tailings dam breaches in the province and to improve management of mine wastes. For example, each mine in BC must now have an Independent Tailings Review Board. Other improvements consistent with the IRMA Standard are express requirements for Best Available Technologies with respect to tailings dams, which are defined in the BC HSR Code and included in the assessment of alternatives for mine waste. With proposed changes to policy measures that allow discretion, concerns will remain that they are not adequate to protect against future similar catastrophes.

Ontario's regime goes part way toward achieving the IRMA Standard for mine waste. Some monitoring documentation is required; however, there is not 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. Notably, this is not equivalent to an independent review. 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.

The Quebec regime addresses hazardous materials as well as mine tailings. Mine tailings management is addressed in the Quebec *Mining Act*; other wastes are governed by the Quebec *Environment Quality Act* (Quebec EQA). Despite this regime, and though waste management will be a consideration of the independent monitoring committees, Quebec falls short of many of the components of the IRMA Standard. Thus, both the initial assessment stage and the monitoring stage do include independent review and evaluation of mine waste management. While there are no general requirements to use best available technologies, not even for waste management, the Quebec EQA does allow for specific exemptions to apply new technologies that could improve environmental performance, including in the mining sector.[164] This provides potential for continued improvements.

In the Yukon, specific guidance is provided to proponents when applying for permits under the Yukon *Waters Act* and Yukon *Quartz Mineral Act*. These guidelines, in conjunction with the Yukon *Environment Act* regime, require effective analysis of potential waste, and plans to deal with management, treatment, disposal, and the potential for contaminated sites. Should the plans submitted with applications be properly implemented and followed, they could provide a regular evaluation of the performance of mine waste management, facilities, and

161 IRMA Standard, Chapter 4.1.8.1.
162 Using existing natural water bodies for mine waste is permitted in Canada, particularly under the *Fisheries Act*, RSC 1985, c F-14 and the *Metal and Diamond Mining Effluent Regulations*, SOR 2002-222. Federal requirements are not assessed in this report.
163 Quebec Directive 019, 2012.
164 Quebec EQA, s. 29.

impacts. The Plan Guidebook establishes policies that would allow Yukon mine waste management to conform or come close to meeting IRMA Standard requirements, although there are no legislated requirements to conduct risk assessments, monitor ongoing risk, conduct alternatives assessments or independent reviews. Best available technologies, practices and continual improvement are not factors in mine waste management either.

The NWT's regime in relation to mine waste is still evolving, and significant legacies exist due to past failures in this area (including the billion-dollar Giant mine remediation project). Although the environmental assessment and permitting requirements under the *Mackenzie Valley Resource Management Act* (MVRMA) are robust, the analysis of waste impacts, and plans for the management, mitigation, and long-term remediation of mine wastes are still subject to project-specific terms and conditions.[165] As in the Yukon, there is currently no legislation requiring best available technologies to address mine waste. Requirements for closure and reclamation plans are set out in policy, and typically are required to be updated every three years or at major project life milestones.

WASTE MANAGEMENT SUMMARY

TAILINGS FACILITIES UNDERGO INDEPENDENT REVIEW THROUGHOUT THE MINE LIFE CYCLE; ONGOING CHANGES ARE TO BE MADE

	IRMA	BC	ON	QC	YT	NT
Tailings facilities must undergo independent review during the design, construction, operation and closure phases of the facility; ongoing changes are to be made.	✓					

MINES REPORT TO STAKEHOLDERS ON MINE WASTE MANAGEMENT ACTIVITIES

	IRMA	BC	ON	QC	YT	NT
Tailings facilities must undergo independent review during the design, construction, operation and closure phases of the facility; ongoing changes are to be made.	✓					✓

✓ Meets | Partially meets | Does not meet

See Appendix F for a detailed description and key features of the framework for Waste Management in each of the five study jurisdictions.

[165] "Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories," available online: https://www.enr.gov.nt.ca/sites/enr/files/guidelines_for_the_development_of_closure_and_reclamation_plans_for_advanced_mineral_exploration_and_mine_sites_in_the_nwt_2013.pdf

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 concluded. Measures throughout the mine life cycle generally are designed with reclamation in mind, but the IRMA Standard plays a critical role in ensuring long-term protections for communities.

Reclamation, Closure and Security Under the IRMA Standard

The IRMA Standard outlines specific reclamation requirements for exploration activities, including that the company must guarantee that it will meet the cost of implementing reclamation for exploration activities related to the mining development,[166] that exploration-related reclamation activities will be carried out in a timely manner,[167] and that stakeholder complaints of incomplete or inadequate exploration reclamation will be discussed and resolved through an operational level grievance mechanism.[168]

When a mine development is contemplated, the IRMA Standard requires the company to prepare, prior to commencing mine construction, a reclamation and closure plan compatible with protection of human health and the environment. The plan should demonstrate how affected areas will be returned to a stable landscape with an agreed post-mining end use and contain prescribed information.[169] Backfilling is the preferred method for decommissioning open pits and underground operations.[170]

Companies must provide stakeholders with at least 60 days to review and comment on the reclamation and closure plan, along with resources for capacity-building (if required to enable meaningful engagement) and opportunities to propose independent experts to provide input to the company on the design and implementation of the plan.[171] The plan shall also be made publicly available.[172] It must include a detailed determination of the estimated costs of reclamation, closure and post-closure, based on the assumption that reclamation and closure will be completed by a third party.[173] The financial surety must be calculated on a conservative basis and be sufficient to cover all long-term activities, including post-closure site monitoring, maintenance, and water treatment operations.[174]

Financial surety instruments must be independently guaranteed, reliable, readily liquid, and reviewed by third-party analysts.[175] Self-bonding or corporate guarantees are prohibited.[176] The company must provide the public with at least 60 days to comment on the adequacy of the financial surety.[177] Results of all approved financial surety reviews, except confidential business information, must be made available to stakeholders upon request.[178] The surety may not be released until public consultation has occurred and revegetation/ecological restoration and reclamatio n of mining and waste sites have been shown to be effective and stable.[179]

During post-closure, the IRMA Standard requires the monitoring of:[180]

a) Closed mine facilities for geotechnical *stability* and routine maintenance;

b) Water resources to detect any off-site *contamination*; and,

[166] IRMA Standard, Chapter 2.6.1.1.
[167] IRMA Standard, Chapter 2.6.1.2.
[168] IRMA Standard, Chapter 2.6.1.3.
[169] IRMA Standard, Chapters 2.6.2.1, 2.6.2.2.
[170] IRMA Standard, Chapter 2.6.3.
[171] IRMA Standard, Chapter 2.6.2.5.
[172] IRMA Standard, Chapter 2.6.2.6.
[173] IRMA Standard, Chapter 2.6.2.3.
[174] IRMA Standard, Chapter 2.6.7.
[175] IRMA Standard, Chapter 2.6.4.2.
[176] IRMA Standard, Chapter 2.6.4.3.
[177] IRMA Standard, Chapter 2.6.4.5.
[178] IRMA Standard, Chapter 2.6.4.4.
[179] IRMA Standard, Chapter 2.6.4.6.
[180] IRMA Standard, Chapter 2.6.5.

c) Water quality over the *long term* – for at least 25 years or until at least 5 consecutive years of data meet applicable water quality criteria.

The IRMA Standard also requires:

d) Biological monitoring to ensure there is no ongoing post-closure damage to aquatic and terrestrial resources; and,

e) Monitoring and adoption of protection measures for people, wildlife, livestock, birds or agricultural uses if a pit lake is present.

The IRMA Standard generally prohibits long-term water treatment, unless:[181]

a) All practicable efforts to implement best practice water and waste management methods to avoid long-term treatment have been made;

b) The company funds an engineering and risk assessment that includes consultations with stakeholders and determines that the contaminated water to be treated perpetually poses no significant risk to human health or to the livelihoods of communities if the discharge were to go untreated; and,

c) The company takes all practicable efforts to minimize the volume of water to be treated.

Finally, both the reclamation and closure plan and financial assurance must be updated at least every five years.[182]

Reclamation, Closure and Security in Study Jurisdictions

Study jurisdictions largely address this subset of the IRMA Standard, though gaps remain. For example, no jurisdiction actively discourages long-term water treatment and it continues to be standard planning and practice across Canada, yet it is prohibited in IRMA.

Most study jurisdictions outline specific requirements for mine closure and reclamation that reflect the intent of the IRMA Standard, but do not fully realize the objectives as there is significant discretion in implementation. At the exploration stage, both the IRMA Standard and BC law promote timely remediation activities, but IRMA also provides for stakeholder involvement. Similarly, both IRMA and BC law require extensive closure and reclamation planning for mines, with regular updating of such plans, though IRMA has several more stringent requirements. For example, IRMA encourages backfilling of pits and underground workings, which provides greater certainty of safety and stability of these features after mine closure. In addition, IRMA sets minimum timeline requirements for post-closure monitoring to increase the certainty that environmental conditions are stable before monitoring ends. IRMA also provides a greater opportunity for involvement by stakeholders at closure and reclamation. BC could do more to implement the IRMA Standard in this regard.

Both the IRMA Standard and BC law outline requirements for financial security to ensure funds are available to cover the costs of remediation. Under the IRMA Standard, specific types of surety instruments are prohibited (due to their greater risk), but in BC there is significant discretion, including in determining whether a surety will be required, the form thereof, and the amount. There are no opportunities for public comment on the adequacy of financial surety, nor on whether the surety should be released. The underlying calculations of the surety are generally kept confidential under BC law thereby making it difficult, if not possible, for Indigenous nations and the public to assess the sufficiency of the security amount required by the province for a particular mine. The shortcomings in the BC regime were highlighted in a 2016 Report by BC's Auditor General which found that the BC Ministry of Energy and Mines held security for less than half of the estimated environmental liabilities at BC mines.[183] These factors render the BC regime below the IRMA Standard. BC has indicated that it will release a revised financial security policy, which may improve its performance in this measure.

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 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, the use of which contravenes the IRMA Standard.

In 2015, Ontario's Auditor General determined that financial assurances may not be adequate to cover mine close-out costs. At that time, 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

181 IRMA Standard, Chapter 2.6.6.
182 IRMA Standard, Chapter 2.6.2.4.
183 Office of the Auditor General of BC, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016, available online: https://www.bcauditor.com/pubs/2016/audit-compliance-and-enforcement-mining-sector, p. 6.

self-assured 10 closure plans, estimated to cost $654 million.[184] Though mandatory, the fact that companies may self-assure means that financial assurance likely is inadequate.

Quebec's 2017 Mine Closure Guide[185] largely incorporates the IRMA Standard. Quebec law promotes timely remediation for exploration activities, and requires extensive closure and reclamation planning for mines, with regular updating of such plans. Quebec also meets the IRMA Standard by encouraging backfilling of open pit mines, though this is not mandatory. Like IRMA, Quebec requires a rehabilitation plan for contaminated soils. Quebec requires only 5 years of groundwater monitoring,[186] although Directive 019 states that a minimum of 20 years of monitoring is necessary for high risk mine tailings.[187]

Quebec's 2013 *Mining Act* amendments specified which financial security instruments are acceptable to cover remediation costs. Of all the jurisdictions, Quebec's financial assurance approach is closest to the IRMA Standard because it does not allow bonding or self-assurance. However, unlike IRMA, there are no opportunities for public comment on the adequacy of the financial surety, or when it should be released.

Reclamation and closure plan requirements in the Yukon include public consultation and comment, minimum 5-year updates to reclamation and closure plans, and public access to those plans. Financial security requirements do not specify whether self-bonding or corporate guarantees are prohibited. Discretion is granted to the Minister in determining sufficient surety. There are no requirements for timely reclamation – an issue with a number of abandoned mines in the Yukon.

The NWT requirements, similar to those in the Yukon, generally are incorporated into the Board assessment and permitting process.[188] Financial security is required for both land and water licences and is set by the Board issuing the authorization or land tenure. Amounts are determined based upon site conditions, proposed site activities, and technical recommendations provided by governments participating in the regulatory process, but there is significant discretion granted to the Minister in determining the form of the security.[189]

In terms of public engagement, the IRMA Standard encompasses three areas. First is the opportunity to comment on reclamation and closure plans.[190] Ontario meets this requirement though it allows 30 days rather than the 60 days established by IRMA. Quebec and the Yukon provide for public comment, but BC does not. NWT expressly requires that financial security be included in the Board hearing process, ensuring broader public review. Second is an opportunity for public comment on financial security plans.[191] Third is that both reclamation and closure and financial surety plans be disclosed.[192] Quebec requires disclosure for reclamation plans but not for surety. Disclosure is anticipated in BC although certain terms can remain confidential (which is permissible under the IRMA Standard). Neither the Yukon nor Ontario appear to require this disclosure.

184 Office of the Auditor General of Ontario, *Annual Report, 2015*, available online: http://www.auditor.on.ca/en/content/annualreports/arreports/en15/2015AR_en_final.pdf, p. 438.
185 *Guidelines for Preparing Mine Closure Plans in Québec,* available online: https://mern.gouv.qc.ca/english/mines/reclamation/documents/guidelines-mine-closure.pdf
186 Quebec Land Protection Regulation, s. 7.
187 Quebec Directive 019, 2012, p. 40.
188 *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories*, available online: https://www.enr.gov.nt.ca/sites/enr/files/guidelines_for_the_development_of_closure_and_reclamation_plans_for_advanced_mineral_exploration_and_mine_sites_in_the_nwt_2013.pdf
189 NWT Securities Management, available online: https://www.lands.gov.nt.ca/en/services/securities-management
190 IRMA Standard, Chapter 2.6.2.5.
191 IRMA Standard, Chapter 2.6.4.5.
192 IRMA Standard, Chapters 2.6.2.6 & 2.6.4.4.

RECLAMATION, CLOSURE AND SECURITY SUMMARY

FINANCIAL SECURITY INSTRUMENTS ARE RELIABLE AND FUNDS READILY AVAILABLE

	IRMA	BC	ON	QC	YT	NT
Surety instruments must be independently guaranteed, reliable, and readily liquid.	✓			✓		

FULL FINANCIAL SECURITY IS PROVIDED

	IRMA	BC	ON	QC	YT	NT
Financial assurance is provided in full, throughout the mine life cycle.	✓			✓		

✓ Meets Partially meets Does not meet

See Appendix G for a detailed description and key features of the framework for Reclamation, Closure and Security in each of the five study jurisdictions.

Appendix A – Community Engagement

BRITISH COLUMBIA

There are minimal requirements under BC mining law to ensure transparent and effective community engagement on mining projects. The BC *Mines Act* and the Health, Safety and Reclamation Code for Mines in British Columbia (BC HSR Code)[193] both outline protections for public health and safety; however, there are no specific requirements under either of these instruments for engagement with the local community.

In BC, public engagement regarding mines occurs mainly through the environmental assessment process. The *Public Consultation Policy Regulation*[194] under the BC *Environmental Assessment Act* (BC EAA), makes it "a general policy requirement" that proponents conduct a public consultation program acceptable to the Executive Director of the BC Environmental Assessment Office (BC EAO). The Executive Director evaluates the adequacy of any public consultation activities and, if warranted, specifies additional public consultation requirements.[195] The Regulation requires that at least one formal comment period be established for each environmental assessment.[196] This process is largely discretionary and falls short of the IRMA Standard.

However, as described in more detail below, in 2018 the BC Legislature enacted a new EAA that came into force in December 2019. The new Act contains more robust public engagement requirements, including provisions related to early engagement and engagement throughout the review, including community advisory committees. Though they raise the bar for public engagement above that found in the existing legislation, particularly the prospect of a community advisory committee, these requirements are still exclusively in the environmental assessment stage.[197]

The BC Environmental Appeal Board, established in 1981 with the broadest mandate of any of BC's environmental tribunals, has the authority to hear appeals of selected decisions made under the *Mines Act, Environmental Management Act*[198] and *Water Sustainability Act*,[199] among others. However, standing to appeal decisions to the BC Environmental Appeal Board is extremely narrow, making it largely inaccessible as a grievance mechanism. For example, under the BC Mines Act, only those persons who have been found to have failed to comply with a provision may appeal such a decision to the BC Environmental Appeal Board.[200] Similarly, under the new BC *Water Sustainability Act*, appeals may be made only by persons who are directly impacted by a decision – such as the person who is subject to the order, an owner whose land is or is likely to be physically affected by the order, or the holder of a permit who considers that his or her rights are or will be prejudiced by the order.[201] In addition, such persons have a mere 30 days to file their appeals.[202] These limited standing rights exclude a host of potentially affected parties.

ONTARIO

Ontario does not require environmental assessments for mine projects, meaning that the community engagement provisions in Ontario are the weakest of all the study jurisdictions. There are two statutory ways that consultation on mineral exploration and development happens in Ontario – under the Ontario *Mining Act* or its regulations, and under the *Ontario Environmental Bill of Rights, 1993* (Ontario EBR). For exploration plans and permits, and for mine closure plans, there are specified consultation requirements under the Ontario *Mining Act* and regulations.[203] Notably, the Ontario requirements provide for a 30-day period to comment on a closure plan, whereas the IRMA Standard sets 60 days as the minimum. Moreover, IRMA requires that the public also should have 60 days to comment on the adequacy of financial surety, but that is not required by Ontario.[204]

193 Although the BC Health, Safety and Reclamation Code is not a regulation, it is applied in practice as a key requirement for mining activities in BC, and requirements therein are often specifically incorporated into the terms and conditions attached to mine permits issued under the BC *Mines Act*.
194 BC *Environmental Assessment Act*, SBC 2002, c 43 [BC EAA], *Public Consultation Policy Regulation*, BC Reg 373/2002 [BC Public Consultation Regulation]; See also BC EAA, s. 4(1): an application for an environmental assessment certificate should include a summary and evaluation of public consultation activities that will be carried out for a project.
195 BC Public Consultation Regulation, ss. 4(2) & (3).
196 BC Public Consultation Regulation, s. 7.
197 Bill 51-2018, *Environmental Assessment Act*, ss. 13, 22 & 23, available online: https://www.leg.bc.ca/parliamentary-business/legislation-debates-proceedings/41st-parliament/3rd-session/bills/first-reading/gov51-1 [BC Bill 51].
198 BC *Environmental Management Act*, SBC 2003, c 53 [BC EMA].
199 BC *Water Sustainability Act*, SBC 2014, c 15 [BC WSA].
200 BC *Mines Act*, s. 36.7.
201 BC *Water Sustainability Act*, s. 105.
202 BC *Water Sustainability Act*, s. 105(3).
203 Ontario *Mining Act*, R.S.O. 1990, c. M.14, ss. 78.1-78.6, 140; O. Reg. 308/12; O. Reg. O. Reg. 240/00.
204 IRMA Standards 2.6.2.5 and 2.6.4.5.

The Ontario EBR plays a key role with respect to community engagement in the province.[205] Under the Bill, there are public consultation requirements for early exploration permits and advanced exploration and mine development closure plans, as well as other authorizations that might be required for mining activities under other statutes (for example, water withdrawals and discharges).[206] While any resident of Ontario is entitled to seek third party leave to appeal, authorizations (termed "instruments") subject to the Ontario EBR frequently indicate that "no appeal exists."[207] These authorizations include issuing exploration permits and approving closure plans.

Where an environmental assessment is conducted (which for a mine would be done on a voluntary basis), all provincial authorizations that flow from the approved environmental assessment are exempt from any Ontario EBR requirements for public consultation and the third party right to seek leave to appeal.[208]

QUEBEC

In Quebec, different standards of public engagement apply depending on the size of a mining project and whether it is in southern or northern Quebec.

Major Mining Projects in Southern Quebec. For major projects in southern Quebec, such as mines that meet the threshold for environmental assessment, the most rigorous assessment and review process is conducted through the Bureau of Public Hearings on the Environment (BAPE), which makes recommendations toward a "whole-of-government" decision.

The 2018 amendments to the Quebec *Environment Quality Act* (Quebec EQA) engage the public in scoping decisions for the impact assessment study. The Minister of Environment can request that issues raised by the public be considered in the study.[209] The addition of citizen questions at early stages means that the scrutiny applied to the project proposal is strengthened as the review proceeds.

Once the impact study is complete, any person can petition the BAPE to hold a public hearing, and the Minister must allow it unless it is determined to be frivolous (although there are no known instances of a petition being rejected on this basis).[210] This high threshold helps ensure meaningful community engagement. When a hearing is held, there is an open, public process with mandatory timelines. All assessment information is also available on the BAPE website and some hearings are webcast, allowing for remote participation.

Interestingly, the nature of community engagement through the BAPE appears to be qualitatively different than that found in other study jurisdictions. In a BAPE hearing, citizens are invited to submit questions directly to the project proponent. If accepted by the Chair they become mandatory and are addressed through the hearing process. Indeed, the community member is an active participant and helps develop the scope of the BAPE review; public questions help frame the analysis, which in turn feeds into the BAPE's recommendations report.

Since the 2018 amendments, the Minister can require the BAPE to undertake targeted consultations, in addition to mediation, on all projects governed by the Quebec EQA.[211] It is too early to tell whether this will provide additional flexibility for hearings or result in parties circumventing the more fulsome public hearings for which the BAPE is known. This mechanism could strengthen community engagement in mining projects.

All Mining Projects in Northern Quebec. For all mining projects in modern treaty territory (roughly northern Quebec), a public consultation is conducted by the Environmental and Social Impact Review Committee / Comité d'examen des répercussions sur l'environnement et le milieu social (COMEX), established by the treaties and enshrined in the Quebec EQA. The process is similar to the BAPE but the COMEX does not benefit from commission of inquiry powers.

Smaller Projects in Quebec. The 2013 amendments to the Quebec *Mining Act* introduced review requirements for mines with a production capacity of less than 2,000 metric tonnes per day that are not captured by the more rigorous BAPE process. For these smaller projects, there are requirements for a

[205] In addition to the public participation rights described herein, the Ontario EBR contains rights to apply for government review of a law, regulation, policy, or instrument (Part IV) and to apply for a government investigation of compliance with prescribed environmental and natural resource statute (Part V). It also contains whistle blower protections (Part VII), clarification of public standing to bring public nuisance causing environmental harm suits (s. 103) and establishes a cause of action called harm to a public resource (s. 84). As well, it establishes the Environmental Commissioner of Ontario to oversee implementation (Part III). The Environmental Commissioner of Ontario is an office of the Legislature, appointed by an all-party committee (rather than being a government appointment).

[206] Ontario EBR, *Classification of Proposals for Instruments*, O Reg 681/94, s. 12; Notice is posted to the Environmental Registry for a minimum 30-day comment period (Ontario EBR, s. 22(1)).

[207] See, for example, Ontario EBR Registry Number: 013-2803 (exploration permit), Ontario EBR Registry Number: 011-9126 (advanced exploration closure plan), Ontario EBR Registry Number: 012-8528 (mine development closure plan). To the authors' knowledge, this failure to comply with the Ontario EBR has not been legally challenged.

[208] Ontario EBR, s. 32.

[209] Quebec EQA, s. 31.3.1.

[210] Quebec EQA, s. 31.3.5: Requests have never been rejected in the past but new language introduced in 2018 may increase the risk that this could happen.

[211] Quebec EQA, ss. 6.3 & 6.4.

proponent-led public consultation process in the region where the mine will be situated before an application for a mining lease may be submitted. Further, the mine's reclamation plan must be accessible to the public at least 30 days before the consultation begins, and a report on the consultation must be sent to the Minister of Environment.[212]

Perhaps one of the most significant amendments overall is the requirement to establish monitoring committees that operate for the life of the mine, through to reclamation and closure. None of the other study jurisdictions require monitoring committees. The mining company selects the committee members from the region of the project,[213] the majority of whom must be independent.[214] The number of committee members is determined by the company and must include "at least one representative of the municipal sector, one representative of the economic sector, one member of the public and, if applicable, one representative of a First Nation consulted by the government with respect to the project."[215] The committee develops its own dispute resolution mechanism.[216]

Lastly, the 2013 amendments sought to bolster the economic returns of the mining industry in Quebec. When granting a mining lease, the Quebec government can require that economic benefits under the lease be maximized and that a study evaluating prospects for ore processing in Quebec be completed as part of any lease renewal.[217] Moreover, relevant economic data is to be shared for each mine, including the quantity and value of the ore extracted during the previous year, royalties paid during the previous year, overall contributions paid by the leaseholder, and the total amount of the financial guarantee required.[218] These provisions enable province-wide and community benefits from mining to be considered.

The recent amendments distinguish Quebec as having a much more comprehensive evaluation and engagement process for mining projects, including consideration of community and province-wide benefits from the industry, which aligns with at least some of the community benefit and revenue transparency provisions in the IRMA Standard, Chapters 1.5 and 2.3, respectively.

Citizen Enforcement Provisions. The existence of citizen enforcement provisions in the Quebec legal framework is a critical form of grievance mechanism that is largely unavailable to other study jurisdictions. While not directly a form of community engagement, it nonetheless functions as a critical backstop. The Quebec EQA[219] enables local citizens impacted by projects to enforce the laws and permits issued under environmental statutes. Citizens can seek court injunctions to halt unauthorized work or violations of permit conditions. Security for such injunctions is capped at $500, which means that a key deterrent to citizen law enforcement (high cost) has been removed in Quebec.[220] These provisions were used effectively in 2014 when groups sought an injunction against geotechnical drilling in beluga whale nursing habitat in relation to the Energy East pipeline.[221]

The 2018 amendments to the Quebec EQA require proponents to make information available on actual or likely contaminant releases, unless the information must remain confidential or would disclose a trade secret.[222] This will unlock the potential of the citizen enforcement provisions of the Quebec EQA making them more likely to be utilized. The Quebec EQA, combined with the inclusion in the Quebec *Charter of human rights and freedoms*[223] of a limited right to a healthy environment, theoretically empowers all residents to seek a court remedy for a failure to respect requirements under any Quebec law.[224]

YUKON

The format and scope of public consultation for mining projects in the Yukon varies, but opportunities are provided under all the main regulatory schemes, including the Yukon *Quartz Mining Act*, the Yukon *Waters Act* and the *Yukon Environmental and Socio-economic Assessment Act* (YESAA).

212 Quebec Mining Act, s. 101.0.1.
213 Quebec Mining Act, s. 101.0.3.
214 Quebec *Regulation respecting mineral substances other than petroleum, natural gas and brine*, CQLR c M13.1 r 2 [Quebec Regulation Respecting Mineral Substances], s. 42.1.
215 Quebec *Mining Act*, s. 101.0.3.
216 Quebec Regulation Respecting Mineral Substances, s. 42.3.
217 Quebec *Mining Act*, ss. 101.0.2 & 104.
218 Quebec *Mining Act*, s. 215.
219 Quebec EQA, ss. 19.1 to 19.4.
220 It is important to note that in Quebec procedural law outside the Quebec EQA is unlike in Common law jurisdictions; the respondent is entitled to compensation for damages suffered as a result of the injunction only if he can show that the application for an interlocutory injunction has been taken in bad faith by the plaintiff. See, Jean-Phillipe Groleau, "Interlocutory Injunctions: Revisiting the Three-Pronged Test" (2008) 53 McGill L.J. 269.
221 *Centre québécois du droit de l'environnement c. Oléoduc Énergie Est ltée,* 2014 QCCS 4147 ; *Centre québécois du droit de l'environnement c. Oléoduc Énergie Est ltée,* 2014 QCCS 4398.
222 Quebec EQA, ss. 23, 23.1, 27 & s. 118.4.
223 Quebec *Charter of human rights and freedoms,* CQLR c C-12, s. 46.1.
224 See S Thériault & D Robitaille, "Les droits environnementaux dans la Charte des droits et libertés de la personne du Québec : Pistes de réflexion (2011) 57(2) McGill L.J., 211.

YESAA is federal legislation that provides for robust public participation in the conduct of environmental assessments in the Yukon.[225] It defines a single assessment process managed by an independent regulator that applies to all projects throughout the Yukon and provides recommendations to federal, territorial and First Nation governments. It ensures a significant degree of transparency in the conduct of a review through a public registry. Every project document and decision is available online,[226] and there are guaranteed opportunities for public participation at all levels of a review.

Assessment of projects is prescribed by regulation and may be initiated in other circumstances where there may be significant environmental or socio-economic effects. Following an initial review of a project, an environmental assessment may be undertaken by a designated office (for low-impact projects), by way of an executive committee screening (for more significant projects), or by public panel review, for projects where the Yukon Environmental and Socio-economic Assessment Board (YESAB) determines that the project is likely to cause significant adverse effects, attract public concern or use controversial technology. The level of assessment required for certain projects may be specified by regulation, while in other cases the YESAB exercises discretion regarding the extent of public engagement.[227] Information may be submitted and public consultation performed under the YESAA process concurrently with the Water Board licensing process.[228]

Under the Yukon *Waters Act*, only certain types of water use licences trigger a public hearing.[229] Most Type A Quartz Mining Water Use Licence applications require a public hearing, but public hearings are not required for Type B Licences, unless the Water Board determines it is in the public interest to do so.[230] Further, this requirement for Type A applications may be waived where the project applicant consents and no member of the public has come forward expressing an intention to participate.[231] Public hearings are optional for the issuance, renewal, amendment, or cancellation of Type B Water Licences.[232]

Under the Yukon *Quartz Mining Act*, the Minister may require public consultation where a proponent has applied for a Mining Licence.[233] If the Minister determines public consultation is necessary, the licence cannot be issued until public consultation has occurred in accordance with the Minister's direction.[234] There is no published guidance on how this discretion is exercised.

Most Quartz Mining Licences are issued in tandem with a Reclamation and Closure Plan,[235] which should include input from communities about long-term land use objectives.[236] The 2006 Yukon Mine Site Reclamation and Closure Policy states only that "communication and engagement with proponents, First Nations and non-government organizations is comprehensive, transparent and timely."[237]

NORTHWEST TERRITORIES

The NWT is subject to a comprehensive, integrated co-management system under the federal *Mackenzie Valley Resource Management Act* (MVRMA)[238] and its corresponding regulations – the *Mackenzie Valley Land Use Regulations*.[239]

As in the Yukon, the MVRMA provides for robust public participation in the conduct of environmental assessments in the NWT. However, the MVRMA regime is significantly broader in scope, also providing for land use planning, wildlife management, and the regulation and permitting of land and water use through regional boards ("the Boards"), co-appointed by

225 *Yukon Environmental and Socio-economic Assessment Act* (S.C. 2003, c. 7), available online: http://laws-lois.justice.gc.ca/eng/acts/Y-2.2/index.html [YESAA].
226 YESAB Online Registry, available online: https://yesabregistry.ca/
227 YESAA, s. 70(1).
228 Yukon Water Board, "Type A and B Quartz Mining Undertakings Information Package for Applicants" (February 2012) [Yukon Water Board Guide], p. 2.
229 Yukon Water Board Guide, p. 3; Water Licence types are determined by referencing Schedule 7 to the *Waters Regulation*, YOIC 2003/58; most Type A Quartz Mining Water Use Licence applications require a public hearing, but public hearings are not required for Type B Licences (unless the Water Board determines it is in the public interest to hold a hearing); public hearings are optional for the issuance, renewal, amendment, or cancellation of Type B Water Licences (Yukon Water Act, s.19(1)).
230 Yukon Water Board Guide, p. 3.
231 Yukon *Waters Act*, s. 19(3); Pursuant to s. 19(2), a public hearing shall be heard where the Water Board is considering issuing, renewing, amending (only in certain cases), or cancelling a Type A Water Licence. This requirement may be waived if the project applicant consents in writing and if 10 days prior to the scheduled public hearing, no person or body has made it known they intend to appear.
232 Yukon *Waters Act*, s. 19(1).
233 Yukon *Quartz Mining Act*, s. 135(4).
234 Yukon *Quartz Mining Act*, s. 135(4).
235 Yukon Water Board & Yukon Energy, Mines and Resources, "Reclamation and Closure Planning for Quartz Mining Project" (August 2013) [Yukon Reclamation and Closure Guidance], p. i.
236 Yukon Reclamation and Closure Guidance, p. 5.
237 Yukon Energy, Mines and Resources, "Yukon Mine Site Reclamation and Closure Policy" (January 2006) [Yukon Mine Site Reclamation and Closure Policy], p. 8.
238 *Mackenzie Valley Resource Management Act*, SC 1998, c 25 [MVRMA].
239 *Mackenzie Valley Land Use Regulations*, SOR/98-429, s.2(3)(c).

public and Indigenous governments. This ensures that there are opportunities for significant public engagement and participation in most development activities, including mining.

In exercising their authority, the Boards must ensure that "the concerns of Aboriginal people have been taken into account."[240] They must also consider in their recommendations, "the importance of conservation to the well-being and way of life of the Aboriginal peoples of Canada to whom section 35 of the *Constitution Act, 1982*, applies."[241] The Boards work with proponents, Indigenous governments, communities, and the public to ensure that potential impacts of proposed projects are understood and carefully considered before decisions are made with respect to the issuance of any land use permit or water licence in the territory.

The distinct roles in this process – for the proponent (to carry out engagement with potentially affected parties), the Board (to carry out consultation under the MVRMA), and the government (to ensure, where required, that adequate Crown consultation and accommodation has taken place with potentially affected Indigenous governments) – encompass important practices that occur throughout the NWT's regulatory process, and which often intersect.

The co-management regime operates under the principle that public participation is an important element of an open and balanced impact assessment process. The regulatory process is open, transparent and inclusive. Every application for a permit or licence received by the Boards goes out for public review using an Online Review System.[242] Upon issuance of a permit or licence, there are regular "check-backs" on a project via required management plans and annual reports, the majority of which go out for public review. The MVRMA and its guidelines ensure that transparent, timely and relevant information is made available to the public through its registry system, including all relevant project materials (guides, correspondence, approvals, and calendars of events).[243]

Funding is not provided directly to Indigenous governments for their participation in the Board processes but is ad hoc. The NWT's Interim Resource Management Assistance Program is designed to provide Indigenous governments with additional capacity to participate in the review process for smaller projects,[244] whereas, when a project is referred to environmental assessment or environmental impact review, federal funding programs typically are available.

No permit application to the Boards is deemed complete until the proponent submits both a log demonstrating pre-application engagement and a plan for life-of-project engagement.[245]

General parameters used to determine who should be engaged through this process consider both ecosystemic boundaries and socio-economic influences of communities and Indigenous governments deemed most likely to be directly affected by a project or application. Overall, the reforms under the NWT *Mineral Resources Act* will ensure that better engagement with Indigenous governments occur throughout each phase in the progression of the mineral tenure process.

Notably, the *Mackenzie Valley Land Use Regulations* exempt the use of land for "anything done in the course of prospecting, staking or locating a mineral claim."[246] This gap has been addressed by the NWT *Mineral Resources Act*, which provides that the moment a mineral claim application is submitted, the Minister is required to give notice to Indigenous governments for whom the claim is within or overlaps with settlement lands or asserted traditional territory.[247]

In terms of ensuring that public engagement occurs throughout the mine life cycle, these are significant reforms. The co-management system already provides substantial public information and ongoing engagement once threshold activities occur. It is with respect to "below threshold" stages in the mine life cycle that a notable gap in public and Indigenous engagement exists.

Additionally, the NWT *Mineral Resources Act* provides for a dispute resolution body to facilitate the conclusion of benefit agreements. The inclusion of such a mechanism will serve to enhance the level of engagement and foster faith in adherence to this new requirement, in cases where parties are having difficulty resolving differences, by providing an impartial forum to assist rather than relying on ministerial discretion.

240 MVRMA, s. 114(c).
241 MVRMA, s. 60(1).
242 The Online Review System is available at: http://lwbors.yk.com/LWB_IMS/MVLWBReviewItems.aspx.
243 MVLWB Engagement and Consultation Policy, June 1, 2013. Available online: https://mvlwb.com/sites/default/files/documents/wg/MVLWB%20Engagement%20and%20Consultation%20Policy%20-%20May%2015.pdf
244 Interim Resource Management Assistance, GNWT. Available online: https://www.enr.gov.nt.ca/en/services/apply-interim-resource-management-assistance-irma
245 MVLWB Engagement and Consultation Policy, June 1, 2013.
246 *Mackenzie Valley Land Use Regulations*, SOR/98-429, s.2(3)(c).
247 NWT *Mineral Resources Act*, s.28(5).

Appendix B – Environmental Assessment

BRITISH COLUMBIA

This section has been concluded as BC brings its new *Environmental Assessment Act* (BC EAA) into force. Thus, this section contains information from across the two regimes as there is no practical experience yet with the new regime and the new regulations were not yet released at time of writing. Under the old regime, environmental assessments are required for mines in BC that meet specific thresholds, as outlined in Table 6, Part 3, of the *Reviewable Projects Regulation*.[248] The threshold for metal mines in BC is the production of ≥ 75 000 tonnes of ore per year. However, the BC *Environmental Assessment Act* (BC EAA) contains a provision whereby the executive director can exempt a project from the requirement even if the threshold has been met.[249] As of time of writing, neither of these provisions will change when the new BC EAA comes into force.

However, the new BC EAA contains two innovative mechanisms that have the potential to strengthen the application of the project triggers, although there is concern that the threshold for the application of these mechanisms may be so high that they will have no practical effect. The two mechanisms are the inclusion of "effects" thresholds in the new *Reviewable Projects Regulation* (not released at time of writing), that are intended to capture project-related "effects," such as extent of land disturbance or greenhouse gas emissions for projects that are not already designated.[250] The second mechanism is the notification provision which requires that a proponent advise the EAO of a sub-threshold project in order that the EAO may consider whether to designate the project for an assessment. It will also enable the EAO to keep track of sub-threshold projects to evaluate experience with the new process over time.[251]

The scope and procedures for carrying out the environmental assessments are not specified in the legislation; instead, the executive director of the BC Environmental Assessment Office (BC EAO) must determine these, as well as the persons and organizations, including First Nations, that must be consulted in carrying them out.[252]

Specific public consultation requirements, including provision of public access to project information within set timelines, are outlined in the BC *Public Consultation Policy Regulation*.[253] In addition, although not part of the statutory scheme, the BC government has released a Guideline for the Selection of Valued Components and Assessment of Potential Effects on the methodological steps in an environmental assessment, from issues-scoping through the evaluation of residual effects.[254] The guideline indicates valued components of the natural and human environment that have scientific, ecological, economic, social, cultural, archaeological, historical, or other importance that are to be considered. The consideration of cultural heritage and archaeological factors is found in the IRMA Standard, Chapter 3.7, which is dedicated to cultural heritage issues.

The new BC EAA is a significant improvement over the status quo and will help BC meet the IRMA Standard. Notably, it removes components of the discretion that existed in the old regime with respect to both the assessment process and decision-making factors. It requires the EAO to publish reasons for decisions, which will enhance transparency and was not a requirement in the old legislation.[255] Climate change and extreme event considerations are mandatory factors in the process, including an innovative requirement to consider the effects of a project on "current and future generations."[256] It strengthens public engagement by establishing an early engagement phase that benefits both communities and proponents, and also includes a requirement for there to be a Community Advisory Committee where there is sufficient community interest in a project.[257] However, this new regime retains the discretion to exempt projects from an environmental assessment should the Minister so decide.

248 BC *Reviewable Projects Regulation*, BC Reg 370/2002 [BC Reviewable Projects Regulation].
249 BC *Environmental Assessment Act*, s. 10(1)(b).
250 See discussion in Environmental Assessment Revitalization, Reviewable Projects Regulation Intentions Paper, September 2019, available at: https://engage.gov.bc.ca/app/uploads/sites/121/2019/09/reviewable_projects_regulation_intentions_paper_final.pdf
251 BC *Environmental Assessment Act*, SBC 2019, c 51, s 10.
252 BC *Environmental Assessment Act*, s. 11.
253 BC *Public Consultation Policy Regulation*, available online: https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/environmental-assessments/acts-and-regulations/2002-act-regulations-documents/2002_-_public_consultation_policy_regulation.pdf
254 British Columbia, Environmental Assessment Office, "Guideline for the Selection of Valued Components and Assessment of Potential Effects" (2013), available online: https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/environmental-assessments/guidance-documents/eao-guidance-selection-of-valued-components.pdf
255 BC *Environmental Assessment Act*, SBC 2019, c 51, s 29(7).
256 BC *Environmental Assessment Act*, SBC 2019, c 51, ss. 25 & 29.
257 BC *Environmental Assessment Act*, SBC 2019, c 51, Part 4. See also s 22.

Perhaps most significantly, it incorporates the values of the UN Declaration on the Rights of Indigenous Peoples (UNDRIP or UN Declaration), making it more FPIC-compliant than the laws of any other study jurisdiction with respect to how an environmental assessment is conducted. In that context, the BC Environmental Assessment Office (BC EAO) is required to "seek to achieve consensus" with the affected First Nations at key process points in the assessment[258] and establish a role for nations throughout the review process, including an option for Indigenous nations to conduct an assessment.[259] Where consensus cannot be achieved, it establishes a dispute resolution process designed to resolve outstanding issues.[260] It is also noteworthy that the BC EAA contains an express obligation on the BC EAO to support reconciliation with Indigenous peoples by supporting the implementation of the UN Declaration.[261] While the law falls short of full Indigenous decision-making, it is a significant legislative development that reflects the intent of FPIC.

ONTARIO

Although disposition of Crown resources triggers an assessment under the Ontario *Environmental Assessment Act* (Ontario EAA),[262] the Ontario government's policy is that non-discretionary aspects of the Ontario *Mining Act* do not trigger an environmental assessment.[263] Private commercial activities do not automatically trigger an environmental assessment either, though they can be subject to environmental assessment through regulation[264] or voluntary agreement.[265] As such, there is no mandatory environmental assessment of any prospecting, exploration, or mine development activities in Ontario.[266]

QUEBEC

In Quebec, different assessment processes apply depending on project thresholds, mineral matter and geography. These processes were outlined in the Community Engagement chapter of this report because of their applicability to that component of the IRMA Standard. Roughly, the Bureau of Public Hearings on the Environment (BAPE) process applies in the south for major projects and the Environmental and Social Impact Review Committee / Comité d'examen des répercussions sur l'environnement et le milieu social (COMEX) process applies in the north for all mining projects and some exploration. Both processes result in a whole-of-government authorization. In addition, the Quebec *Environment Quality Act* (Quebec EQA) requires ministerial approvals prior to undertaking an activity, including mining-related activities that will emit contaminants in the environment or impact waterways.[267] These processes must be concluded, and ancillary permits granted, before a mining lease can be issued.[268]

For southern Quebec, the Quebec EQA governs environmental assessment and establishes a project list by regulation, setting out thresholds for a BAPE review. The triggering criteria are detailed and extensive. They include reclamation work for: abandoned mines near wetlands; uranium and rare earth mines regardless of quantities exploited; metal mines with maximum daily extractive capacity equal to or greater than 2,000 metric tonnes; non-metal mines with maximum daily extractive capacity equal to or greater than 500 metric tonnes; mines within 1,000 meters of an urban area or native reserve; and, some expansions of existing mines or where maximum daily capacity is reached.[269] In addition, the government can designate projects for assessment.[270]

When a project triggers an assessment, the Ministry of Environment issues a directive stipulating that the regulatory requirements[271] and the factors required by the Minister, and/or developed through public consultation, be considered.[272] The proponent then conducts an impact study pursuant to the

258 See for example, BC *Environmental Assessment Act,* SBC 2019, c 51, ss. 16(1), 19(1), 29(3) & 32(7).
259 See for example, BC *Environmental Assessment Act,* SBC 2019, c 51, ss 19(4) and s 41.
260 BC *Environmental Assessment Act*, SBC 2019, c 51, s 5.
261 BC *Environmental Assessment Act,* SBC 2019, c 51, s 2(2)(b)(ii).
262 Ontario EAA, s. 3(a).
263 See, Ontario Ministry of Energy, Northern Development and Mines, Mineral Development and Lands Branch, "A Class Environmental Assessment for Activities of the Ministry of Northern Development and Mines under the *Mining Act*" (2018), available online: https://www.mndm.gov.on.ca/sites/default/files/class_ea_approved_minor_amendments.pdf; "The statutory entitlements to stake a mining claim, and to be issued a mining lease, where no decision or approval by MNDM is required, are not subject to the *Environmental Assessment Act* or the requirements of this Class EA." Interpretation has not been tested in court.
264 Ontario EAA, s. 3(b); there is currently no regulation prescribing any prospecting, exploration, or mine development activities as being subject to environmental assessment.
265 Ontario EAA, s. 3(c).
266 An evaluation of whether a voluntary agreement to be subject to Ontario's environmental assessment program would meet the IRMA Standard has not been included in this report.
267 Quebec EQA, s. 22. The 2018 amendments established a conformity scheme or conformity declaration for activities with lesser impacts. Regulations for this conformity scheme are still under development.
268 Quebec *Mining Act*, s.101.
269 Quebec *Regulation respecting the environmental impact assessment and review of certain projects*, CQLR c Q-2, r 23.1 [Quebec EIA Regulation], Schedule 1, ss. 2(5) & (22).
270 Quebec EQA, s. 31.1.1.
271 Quebec EIA Regulation, ss. 5 & 31.3.
272 Quebec EQA, s. 31.3.1.

directive. A deficient study can be rejected, thus ending the assessment.[273]

Procedural rules are set partly in regulation but determined largely by the BAPE itself. A BAPE commission sends a report with recommendations to the Environment Minister and other members of the Council of Ministers who then decide whether projects should be approved with conditions or rejected.

The consultation features described in the Community Engagement chapter of this report, and many others, ensure the credibility of the BAPE process. Hearings occur under the responsibility of neutral chairpersons who tend to be generalists, better equipped to deal with different dimensions of sustainability. Commissioners are not appointed by the Minister of Environment but rather by the president of the BAPE. This independence in the review process is a key strength which, interestingly, is not a component of the IRMA Standard. Thus, there may be ways in which Quebec exceeds the IRMA Standard.

For projects in northern Quebec covered by treaty regimes (as described in the Quebec portion of the Free, Prior and Informed Consent chapter of this report), all mining projects, including changes to existing mines (but not necessarily exploration projects), must undergo an environmental and social assessment.[274] The assessment process provides for an advisory committee composed of Indigenous and government appointees.[275] The review committee, or COMEX (described in the Quebec portion of the Community Engagement chapter of this report) will conduct hearings according to defined principles, including protection of hunting, fishing and trapping rights, protection of Indigenous values, and protection of environmental, economic and social values.[276] The fact of cultural heritage considerations being evaluated in this process, as well as in the BAPE process through Quebec's 16 sustainability principles, is consistent with Chapter 3.7 of the IRMA Standard.

YUKON

The *Yukon Environmental and Socio-economic Assessment Act* (YESAA) is a federal statute that establishes an environmental assessment regime for the Yukon in accordance with the Umbrella Final Agreement with Yukon First Nations. Because this statute is designed to address federal jurisdictional issues as well, the *Canadian Environmental Assessment Act*, 2012 does not apply in the Yukon.[277]

All mining activities above Class 1 require an assessment under this regime.[278] This includes all exploration, operation, dismantling and abandonment activities, with some technical exceptions.[279] YESAA empowers federal or territorial ministers or a First Nation to designate a project if they believe that a project will have significant adverse effects.[280]

Assessments in the Yukon are overseen by the Yukon Environmental and Socio-economic Assessment Board (YESAB), which operates at arms-length from government. YESAB members are appointed by the federal government from among nominees provided by Canada, the Government of Yukon, and Yukon First Nations.[281] Assessments for all mining activities above Class 1 exploration are to be completed before permits that would authorize mining activities are issued. All YESAB assessments provide for public participation, and major projects require public hearings. Scoping is carried out pursuant to legislation and Board rules.[282] Independent monitoring is not a requirement but could be a condition attached to a Decision Document.

Detailed data and information are to be provided by the proponent and used in the evaluation of relevant permitting, such as water licences. There are three levels of review, depending on the scope of the project – Designated Office evaluation, Executive Committee screening, and Panel of the Board review.[283] Each conducts an assessment according to the

273 Quebec EQA, ss. 31.3.3 & 31.3.4.

274 Quebec EQA, Schedule A, s. (a), however, mining exploration projects are not automatically subject to the assessment and review procedure contemplated in sections 153 to 167; *Act Respecting the Land Regime in the James Bay and New Québec Territories*, CQLR c R-13.1 [JBNQT Land Regime Act], s. 82.

275 Quebec EQA, ss. 134-135 & 140.

276 Quebec EQA, ss. 149 & 151-152.

277 YESAA, s. 6.

278 Yukon Energy, Mines and Resources, "Surface and Subsurface Rights Management" (Mineral Resources Branch/Land Management Branch, August 27, 2010) [Yukon Surface/Sub surface Info Sheet], p. 5. The "classes" designation comes from the Mining Board licensing not YESAA and essentially any mining exploration or operation that is "beyond grassroots" is one that needs to be assessed under YESAA; see Yukon Government, "Mining Land Use," available online: http://www.emr.gov.yk.ca/mining/mining_land_use.html. However, whether or not a project is assessed under YESAA determines in which class to put the mine, not the other way around.

279 Projects that require screening are listed in Column 1 of Parts 1-13 of the Schedule 1 to the *Assessable Activities, Exceptions and Executive Committee Projects Regulations*, SOR 2005-379.

280 YESAA, s. 48(3).

281 Yukon Environmental and Socio-economic Assessment Board, "YESAB Governance Framework" (2017), available online: http://www.yesab.ca/wp/wp-content/uploads/2017/11/YESAB-Governance-Framework.pdf

282 Yukon Environmental and Socio-economic Assessment Board, "YESAA and Related Documents," available online: http://www.yesab.ca/the-assessment-process/act-regs-rules-flow-charts/

283 Yukon Energy, Mines and Resources, "Guide to Hard Rock Prospecting, Exploration and Mining in Yukon" (September 2009) [Yukon Hard Rock Guide], p. 19; YESAA, s. 46.

legislative requirements and then submits recommendations to the relevant ministry, which issues a Decision Document, including recommendations and conditions.[284] This is not project approval – rather it provides approval and binding conditions to the various permit issuing bodies to issue permits for the project. All permits issued must be in compliance with the Decision Document. Notably, the YESAA requires cultural heritage to be one of the factors in the assessment.[285]

NORTHWEST TERRITORIES

In the NWT, mining activities are subject to the territory's general environmental assessment regime under the *Mackenzie Valley Resource Management Act* (MVRMA) which is involved at all stages in the mineral development process (e.g., exploration, construction, operation and closure).

The MVRMA is a comprehensive environmental management regime that provides for an integrated and coordinated system of land and water management in the Mackenzie Valley (defined to include the entirety of the NWT except for Wood Buffalo National Park, the Inuvialuit Settlement Region, and offshore waters).[286] Land use planning, environmental assessment, and land and water permitting are all undertaken through land and water boards established pursuant to, or in anticipation of, land claim agreements.

The MVRMA establishes the processes that apply to land use planning, land and water regulation, environmental impact assessment, and environmental monitoring and auditing in the Mackenzie Valley. The legislation sets out three stages in the environmental impact assessment process: 1) preliminary screening, conducted by the land and water boards; 2) environmental assessment, conducted by the Review Board; and, 3) environmental impact review, conducted by an independent panel struck by the Review Board. These processes inform regulatory conditions, which are set out through land use permits and water licences, to "ensure that the impact on the environment of proposed developments receive[s] careful consideration before actions are taken in connection with them"[287] and for the "protection of the environment from the significant adverse impacts of the proposed development."[288] Under the MVRMA, the term "impact on the environment"[289] includes social and cultural impacts, as well as biophysical considerations.

Land and water boards play an important role in reviewing project proposals before licences, permits and approvals can be granted by regulatory authorities. Per the MVRMA, until the assessment has been completed, regulatory authorities may not issue a licence, permit or other authorization in respect of a project. Under the MVRMA, the terms and conditions in a decision document are to be incorporated into required permits, certificates, licences or other government approvals. However, this does not prevent any regulatory authority from reviewing a project and imposing additional or more stringent terms, or from refusing to issue a licence or approval that would be required to allow a proposed project to proceed.

Ultimately, through the shared jurisdictions or co-management system, the environmental impacts of all new mining projects are assessed in a manner that is attentive to both ecosystem and socio-economic impacts, while providing the NWT public with a fully transparent and accessible process.

284 YESAA, s. 2(1): a Decision Body is either a First Nation, the territorial minister, a federal agency, or a federal minister, depending on the circumstances.
285 YESAA, s. 42(1)(g).
286 MVRMA, s. 2.
287 MVRMA, s. 114(b).
288 MVRMA, s. 115(1)(a).
289 MVRMA, s. 111(1).

Appendix C – Free, Prior and Informed Consent

BRITISH COLUMBIA

BC law generally is limited in its requirements to consult with, and potentially accommodate, the interests of Indigenous peoples. In recent years, such consultation has taken a collaborative form by way of reconciliation and shared decision-making initiatives that the provincial government has engaged in through policy and/or reconciliation-type agreements with some individual First Nations. Their application is piecemeal and inconsistent, and none of the specific IRMA Standard requirements are incorporated into BC mining laws.

However, this framework is poised to change significantly with the introduction of the *Declaration on the Rights of Indigenous Peoples Act* in October 2019. When in force, this legislation intends that BC will "take all measures necessary to ensure the laws of British Columbia are consistent" with the UN Declaration on the Rights of Indigenous Peoples (UN Declaration).[290] It will require government action plans to harmonize provincial laws with the UN Declaration and annual reporting to evaluate progress to that end. It also enables decision-making agreements with Indigenous governing bodies as a means to achieve free, prior and informed consent (FPIC). This legislation will help support the implementation of BC's principles to guide its relationship with Indigenous peoples.[291] It is a major step toward reconciliation, though it will be important to ensure that the advances in this legislative framework apply equally and promptly to mining.

Under BC law, there are no specific requirements to seek and/or obtain the free, prior and informed consent of potentially affected Indigenous peoples before proceeding with the development of new mines or with changes to mining-related activities that may result in new or increased impacts on Indigenous peoples' rights or interests. Instead, the focus under BC law is limited to consultation (and potential accommodation), which generally is carried out through the environmental assessment process. Within that process, the Executive Director of the BC Environmental Assessment Office (BC EAO) must determine the nature and extent of engagement with First Nations.[292]

This status quo will change significantly as a result of the new BC *Environmental Assessment Act* (BC EAA) coming into force in December 2019. While this law does not guarantee full FPIC, it advances Indigenous recognition in the environmental assessment process in deep and meaningful ways, relative to existing legislative frameworks. Key reforms found in the new BC EAA include:

1. An express obligation of the BC EAO to support implementation of the UN Declaration;
2. Where an Indigenous nation provides notice that it intends to participate in an assessment, the BC EAO is required to include them;
3. Where an Indigenous nation notifies the BC EAO that it intends to carry out an assessment, the assessment order must provide for it;
4. The BC EAO must seek to achieve consensus with Indigenous nations at key stages in the process;[293] and,
5. A process is established to resolve disputes with Indigenous nations.[294]

While consensus is the goal of the environmental assessment process, the BC *Mineral Tenure Act* and the BC *Mines Act* regimes do not reflect these advances, and there will be a significant disconnect relative to mining activities unless and until similar changes are implemented by those regimes as well.

Currently, when applying for a BC *Mines Act* permit, proponents must include a description of established and asserted Aboriginal and treaty rights.[295] There are no specific requirements to obtain the consent of the corresponding Indigenous peoples who hold such rights.

However, common law consultation and accommodation requirements apply whenever the province makes a decision that could impact Indigenous peoples' rights (such as issuing a BC *Mines Act* permit). Determining the scope of their rights is guided by an assessment of the strength of the Indigenous peoples' title and rights claim, and other factors outlined in the common law (but not codified in statutory provisions). The

290 BC Legislature, 2019, Bill 41, *Declaration on the Rights of Indigenous Peoples Act*.
291 Government of British Columbia, "Draft Principles that Guide the Province of British Columbia's Relationship with Indigenous Peoples" (2018), available online: https://www2.gov.bc.ca/assets/gov/careers/about-the-bc-public-service/diversity-inclusion-respect/draft_principles.pdf
292 BC *Environmental Assessment Act* (BC EAA), s. 11.
293 BC *Environmental Assessment Act*, SBC 2019, c. 51, ss. 16, 19, 27, 28, 29, 31, 32, 34, 35 & 73.
294 BC *Environmental Assessment Act*, SBC 2019, c. 51, s 5.
295 BC Ministry of Energy and Mines, "Health Safety and Reclamation Code for Mines in British Columbia" (2017), available online: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/health-and-safety/code-review/health_safety_and_reclamation_code_2017_rev.pdf [BC HSR Code], s. 10.1.3.

strength of claim approach is problematic as it places the burden on Indigenous peoples to establish that their title or rights claim is strong; it does not reflect a recognition of inherent rights or jurisdiction.

As there are few modern treaties, and no laws requiring FPIC in BC, the consent of Indigenous peoples is only sought by provincial decision-makers in certain circumstances, such as where Indigenous title has been declared, or where the decision-maker (or a court) can be convinced that a strong *prima facie* case for title exists.

ONTARIO

There is no mention of FPIC in Ontario law or regulation. The focus of the Ontario *Mining Act* is on respecting constitutionally protected Aboriginal and treaty rights and on the Crown's duty to consult.[296] Every mining lease is expressly subject to the protections provided by section 35 of the *Constitution Act, 1982*.[297] Under the Ontario *Mining Act*, Aboriginal consultation is a pre-condition for mineral exploration plans and permits,[298] mine production,[299] and mine closure plans.[300]

Though consultation with Aboriginal communities is required and dispute resolution processes are enabled in relation to mining closure issues, the aim is merely to respect constitutionally protected Aboriginal and treaty rights rather than seek FPIC. Further, to the extent that communities are identified for consultation, this direction comes from a Director in the Ministry of Energy, Northern Development and Mines and is not necessarily made with the input of the communities themselves.

QUEBEC

Quebec also does not require FPIC of affected or potentially affected Indigenous peoples before proceeding with the development of new mines or with changes to mining-related activities. As with BC and Ontario, Quebec law – except where modified by treaty regimes – is generally limited to constitutional requirements to consult with Indigenous peoples.

However, in recent years the government has refused to grant permits or has reacquired them where First Nations have clearly opposed projects, even outside of territories covered by modern treaties.

This occurred when Quebec cancelled development and bought out hydrocarbon exploration permits on Anticosti Island after the Innu of Ekuanitshit commenced litigation.[301] It also occurred when Quebec purchased a mining company's copper claims for $8 million in the traditional territory of the Mitchikanibikok Inik (Algonquins of Barriere Lake) after that nation clearly stated its opposition to the mining project and sought to intervene in judicial proceedings.[302] Such compensation did not appear to be legally required – considering both rejected projects were in exploratory phases with no vested rights, since further authorizations were outstanding. The settlements may indicate a desire by Quebec to avoid complicated and potentially expensive litigation akin to the *Strateco* case cited above.

Quebec's mining law is still built around the "free-entry" system, and the policy guidance focuses solely on consultation, rather than on obtaining FPIC.[303] It took more than five years after the Quebec Mining Act was amended to issue the "Native Community Consultation Policy" that is legally required.[304] Preliminary consultations with Quebec First Nation organizations occurred in 2015 and were followed up in 2017 before the policy came into force in October 2019. The new policy does not move closer to requiring consent and is criticized as preserving the status quo.[305] Hence, the new mining statutory framework remains not FPIC-compliant and, arguably, unconstitutional.

Without further changes to the mechanisms governing the acquisition of mining claims and the performance of exploration work, the provisions introduced in the Quebec *Mining Act* to acknowledge the duty to consult are likely to be insufficient for the province to uphold its constitutional duties to Aboriginal

296 Ontario *Mining Act*, s. 2.
297 Ontario *Mining Act*, s. 86.1.
298 Ontario *Mining Act*, s. 78.2 & O Reg 308/12.
299 Ontario *Mining Act*, s. 141(1)(c).
300 Ontario *Mine Development and Closure Regulation*, s. 8.1: the Director must provide written direction with respect to the required consultation with Aboriginal communities; Ontario *Mine Development and Closure Regulation*, s. 8.1(6): proponents are required to submit to the Director a consultation report that includes details about how comments from Aboriginal communities have been considered.
301 *Piétacho c. Procureure générale du Québec*, 2018 QCCS 173. The judge ruled the case theoretical and refused to decide given projects were cancelled a few months before judgment. Still, the refusal to develop the island's hydrocarbon resources may also be the cumulative result of previous litigation and generalized uproar from environmentalists.
302 Marc-Olivier Thibault, "Québec verse 8 M$ à Copper One pour les titres miniers à Lac Barrière: (2017) Radio-Canada, available online: https://ici.radio-canada.ca/nouvelle/1074261/quebec-verse-8-m-a-copper-one-pour-les-titres-miniers-a-lac-barriere
303 Quebec Mining Act, ss. 2.1-2.3.
304 Quebec Mining Act, s. 2.3; MERN, Aboriginal community consultation policy specific to the mining sector (2019), available online: https://mern.gouv.qc.ca/wp-content/uploads/PO-consultation-mines_MERN-ANG.pdf
305 Marie Kirouac-Poirier & Laurence Royer, "Nouvelle politique sur les Autochtones et les mines : « Il n'y a rien qui change! » " (2019) Radio-Canada, available online: https://ici.radio-canada.ca/nouvelle/1362770/politique-consultation-minier-provincial

peoples. Prospectors can still unilaterally acquire claims on lands potentially held under an Aboriginal title without any requirements for Aboriginal consultation. Following the Yukon Court of Appeal ruling in *Ross River Dena Council v. Government of Yukon*, which could persuade courts in other jurisdictions, statutory regimes that "do not allow for consultation and fail to provide any other equally effective means to acknowledge and accommodate Aboriginal claims are defective."[306] After *Ross River*, Crown recognition of mining claims on lands held under Aboriginal title without prior consultation would not sustain a constitutional challenge under s. 35 of the Constitution.[307]

However, the regime in northern Quebec, where two-thirds of mining occurs, is quite different because the provisions of the Quebec *Mining Act* are subject to the modern treaties and their implementing legislation.[308] In the north, modern treaties establish specific frameworks for the Cree,[309] Inuit and Naskapi. The treaty regimes create three categories of land requiring different levels of Indigenous engagement or consent. Category I lands are made up mostly of communities and villages and cannot be mined without the consent of the community.[310] Category II lands are covered by exclusive rights to fish, hunt and trap but not occupancy.[311] Projects approved on Category II lands require Quebec to replace any land lost with other suitable land.[312] Category III lands have been expropriated or already belong to the province.[313] Many advances adopted in the 2013 Quebec *Mining Act* regarding municipalities and private lands may not apply in treaty regimes because of the different ways that public bodies are described in the two legal frameworks.

Although there are no specific requirements under Quebec law to provide capacity for Indigenous participation in assessment and monitoring processes, the assessment processes in areas governed by treaty have adapted to Indigenous needs. The tripartite Bureau of Public Hearings on the Environment (BAPE)-Cree-Inuit commission set up to inquire into uranium industry issues went to great lengths to be co-governed (including requiring the use of four languages). It resulted in a consensus summary report and a moratorium on uranium mining in Quebec.[314]

YUKON

The Yukon regulatory system does not conform to the FPIC requirements set out in the IRMA Standard, though the Standard is met in some areas where First Nations are able to exercise ownership and jurisdiction over settlement lands. Mineral rights are managed in accordance with the regime set out in the Umbrella Final Agreement, signed in 1993 between the federal government, Yukon and Council of Yukon Indians. The Umbrella Final Agreement established the framework for Yukon First Nations to negotiate final agreements over their own traditional territories with the Yukon government.[315] These negotiated Final Agreements (concluded with 11 out of 14 Nations)[316] set out the nature of the rights, title, and relationship between each nation and the Yukon government, and provide for the management of Settlement Lands.

There are three classes of Settlement Lands:

1. Category A lands provide the First Nation with full title to the surface and subsurface resources of the land. This means the nation owns, administers, and retains royalties from any subsurface exploitation, subject to any pre-existing mineral right on those lands at the time of final agreement, which are still governed and regulated by the Crown. However, if or when the mineral right lapses, the interests vest in the First Nation.[317]

2. Category B lands provide the First Nation with ownership of the surface, but not subsurface, minerals. The Crown administers the subsurface, and the Yukon *Quartz Mining Act* and

306 *Ross River,* para 37.
307 Sophie Thériault, "Aboriginal Peoples' Consultations in the Mining Sector: A Critical Appraisal of Recent Reforms in Quebec and Ontario" in A Bélanger & M Papillon (eds.), *Aboriginal Multilevel Governance* (McGill-Queen's Press, 2015), p. 143.
308 *Quebec Mining Act*, s. 341.
309 The Cree concluded a further agreement with Quebec seeking to maximize Cree involvement in economic development, including setting up the Mineral Exploration Board. See, *Agreement concerning a new relationship between le Gouvernement du Québec and the Crees of Québec (The Paix des Braves)*, available online: https://www.autochtones.gouv.qc.ca/relations_autochtones/ententes/cris/entente-020207_en.pdf, Chapter 5.3.
310 Quebec *Act Respecting the Land Regime in the James Bay and New Québec Territories,* CQLR c R-13.1 [JBNQT Land Regime Act], ss. 7.1 & s. 7.1.15.
311 JBNQT Land Regime Act, ss. 71 & 74.
312 JBNQT Land Regime Act, s. 74.
313 JBNQT Land Regime Act, s. 93.
314 Bureau d'audiences publiques sur l'environnement, *Uranium Industry Issues in Québec: Inquiry and public hearing report (Cree/English version*) (2015), Report 308, available online: https://archives.bape.gouv.qc.ca/sections/rapports/publications/bape308_cri_anglais.pdf
315 Yukon Mineral Resource Branch, "Interpretive Bulletin 2009-03 Administration of Mineral Claims in the Traditional Territory of First Nations with Final Agreements" (October 20, 2009), available online: http://www.emr.gov.yk.ca/mining/pdf/ib_2009_03_settlement_lands.pdf [Yukon Interpretive Bulletin 2009-03], p 1.
316 See, Yukon Government, "Yukon Today," available online: http://www.gov.yk.ca/aboutyukon/yukontoday.html; Yukon Interpretive Bulletin 2009-03; Council of Yukon First Nations, "First Nations' Final Agreements," available online: https://www.cyfn.ca/agreements/first-nations-final-agreements/
317 Yukon Interpretive Bulletin 2009-03, p. 4.

accompanying regulations apply. While First Nations have the right to negotiate access, there is no requirement for consent. Where agreement on access cannot be obtained from a First Nation, the Yukon Surface Rights Board may make an order providing for access.[318]

3. On all other lands, common law consultation obligations exist, but consent is not required.

In addition to the regime set out in Final Agreements and under the Umbrella Final Agreement, various laws require consultation with affected First Nations, but only after following the staking of a mineral claim. As noted earlier, the free-entry provisions in the Yukon *Mining Act* were found to be unconstitutional in the Kaska territory (which is not subject to a final agreement under the Umbrella Final Agreement) and, as of the date of this report, Kaska territory remains under a mineral staking moratorium. However, the free-entry regime remains part of the land and resource management regime outside of Category A Settlement Lands under the Final Agreements. Accordingly, consultation is required for Designated Class 1 exploration programs[319] in areas open to mineral staking. Consultation is also required of First Nations without a Final Agreement for any project that "is to be located wholly or partly, or might have significant adverse environmental or socio-economic effects, in the First Nation's territory."[320] However, consent is not required.

NORTHWEST TERRITORIES

As in the Yukon, the NWT Minister holds broad discretionary power to decide whether to approve a development, and is not required to obtain consent to grant mineral dispositions, except on lands where the subsurface rights are owned or controlled by the Indigenous government or as otherwise required under a modern land claim agreement.

There is no mention of the UN Declaration or FPIC in any current NWT law or regulation, but a significant advance is forthcoming under the NWT *Mineral Resources Act,* which requires the proponent to conclude a benefit agreement with affected Indigenous government(s) before the Minister can issue a production licence for a mine. This legislation, which is not yet in force, requires proponents to obtain consent through a negotiated agreement from affected Indigenous communities before a mine can go into production. Further, one stated purpose of the legislation is to ensure that Indigenous governments realize benefits from mineral development, and to impose positive obligations on developers to ensure that Indigenous communities are better off when a mine is developed, rather than simply mitigating the negative effects of mining.[321]

However, under the new legislation the Minister does retain the discretionary authority to proceed without a benefits agreement in "exceptional circumstances."[322] It is clear that the aim of the legislation is to provide an effective mechanism for imparting benefits to affected communities, rather than directly meeting FPIC. In contrast to the new BC EAA, which recognizes and aspires to "consent," the word "consent" is not used with respect to Indigenous peoples at any point in the NWT *Mineral Resources Act*, nor is the word "consultation" used except to state that the legislation is to be interpreted in accordance with s. 35 of the Constitution.

318 Yukon Interpretive Bulletin 2009-03.
319 Yukon *Quartz Mining Act*, s. 133(1)(b).
320 YESAA, s. 74(2).
321 NWT *Mineral Resources Act*, s.2(c).
322 NWT *Mineral Resources Act*, s.52(3).

Appendix D – Biodiversity, Ecosystem Services and Protected Areas

BRITISH COLUMBIA

In BC, the *Ecological Reserve Act*,[323] *Ecological Reserve Regulations*,[324] and *Mineral Tenure Act* all place restrictions on exploration and development in parks, sensitive areas and provincial heritage properties. BC allows for the termination of mining rights for park designation.[325] Notably, there is no regime to protect at risk species, as BC does not have endangered species legislation.

Applications for BC *Mines Act* permits must include the information listed in the Health, Safety and Reclamation Code for Mines in British Columbia (the Code).[326] The prescribed information includes consideration of the impact of the proposed mining activities on fisheries and aquatic resources, vegetation, wildlife, land capability and present land uses and should include a program for environmental protection of land and watercourses. There is no specific requirement to include information, or an impact assessment, on biodiversity, ecosystem services or protected areas already impacted by mining activities and it is up to the discretion of the chief inspector to attach relevant conditions to the permit, although there is detailed guidance that broadly encompasses IRMA factors.[327]

ONTARIO

Except for threatened or endangered species listed in Ontario, there are no detailed statutory or regulatory requirements to screen, assess, manage, mitigate, or monitor for biodiversity and ecosystem services impacts of proposed mining activities. Neither are there mechanisms in Ontario to identify and address past adverse impacts, even for species at risk.

The Ontario *Endangered Species Act* (Ontario ESA) prohibits harming a listed species at risk or its habitat without authorization.[328] There are various pathways to obtaining such authorization, including an "overall benefit" permit issued by the Minister of the Environment, Conservation and Parks, which may be issued where the main purpose of the authorized activity is not to assist in the protection or recovery of the species specified in the permit, but that: (1) an overall benefit to the species will be achieved within a reasonable time; (2) reasonable alternatives, including not adversely affecting the species, have been considered and the best alternative has been adopted; and, (3) reasonable steps to minimize adverse effects on individual members of the species are undertaken.[329] The Minister has discretion to set conditions on the overall benefit permit, including financial assurance and monitoring. However, there is no independent oversight of any imposed monitoring program requirements.

Since 2007, prospecting, claims staking and mine development are prohibited in established provincial protected areas.[330] However, the Minister of Natural Resources and Forestry may issue permits for roads or trails through those areas to allow access to a mining claim/tenure.[331] When new protected areas are created, existing mining claims/tenures continue.[332]

Given that there are no environmental assessment requirements, it is even more critical to ensure consideration of biodiversity and ecosystem services impacts for mine reclamation and closure. The Mine Rehabilitation Code of Ontario[333] is silent on biodiversity and ecosystem services considerations beyond the standard given to tailings dams, surface water monitoring,

323 BC *Ecological Reserve Act*, RSBC 1996, c 103 [BC ERA].
324 BC *Ecological Reserve Regulations*, BC Reg 335/75.
325 BC *Mineral Tenure Act*, s. 17.1.
326 BC Health, Safety and Reclamation Code, s. 10.1.3.
327 BC *Mines Act*, s. 10(3). See also, BC Ministry of Energy and Mines and BC Ministry of Environment, "Joint Application Information Requirements for *Mines Act* and *Environmental Management Act* permits" (2016), available online: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/permitting/minesact-ema_application_information_requirements_feb2016.pdf
328 Prohibitions are found in the Ontario *Endangered Species Act*, 2007, SO 2007, c 6 [Ontario ESA], ss. 9 & 10; listing is done under the Ontario ESA, *Species at Risk in Ontario List*, O Reg 230/08, Schedules 2 & 3.
329 Ontario ESA, s. 17(2)(c). There is another type of permit that does not require demonstration of "overall benefit." Under the Ontario ESA, s. 17(2)(d), it must be demonstrated, among other things, that there is significant social or economic benefit. This permit type has only been used (to date) for the proposed Windsor-Essex Parkway portion of the Detroit River International Crossing. Ontario ESA, s. 17(2)(d) permits require Cabinet approval.
330 Ontario *Mining Act*, s. 31 and Ontario *Provincial Parks and Conservation Reserves Act*, *2006,* SO 2006, c 12 [Ontario Provincial Parks Act], s. 16(1)3. There are two types of provincial protected areas: provincial parks and conservation reserves.
331 Ontario *Provincial Parks Act*, s. 20(1)1. Proposed access roads or trails through a provincial protected area are required to go through a streamlined environmental assessment (Class environmental assessment for Provincial Parks and Conservation Reserves), which may include public consultation.
332 As a result, there may be areas within a provincial protected area that are not technically part of the park or conservation reserve. See, for example, the *Kawartha Highlands Signature Site Park Act, 2003*, SO 2003, c 6, which excludes areas subject to mining claims and rights within the newly created park.
333 Ontario *Mine Development and Closure Regulation*, Schedule 1 [Mine Rehabilitation Code of Ontario].

ground water monitoring, leaching and acid rock drainage, and revegetation.

Mine closure plans do require an assessment of baseline conditions, which include details regarding: current land use of the site and adjacent lands; surface and ground waters on site and receiving waters; terrestrial plant and animal life that may be affected; aquatic plant and animal life that may be affected; and, any previous activities that may have resulted in a mine hazard on the site, including current contamination of soils and waters.[334] However, these requirements are merely listed – no detail is prescribed about information gathering or verification. There are no consultation requirements related to mine closure plans specific to biodiversity and ecosystem services and there is no independent review of mine closure plans.

QUEBEC

Of all the study jurisdictions, the Quebec framework appears to best approximate the IRMA Standard for protecting biodiversity. Mining in Quebec occurs in a legislative context framed by broad sustainable development principles, mandated protections for endangered species, and monitoring frameworks. Quebec's legal framework includes strong provisions for biodiversity protection, respect for ecosystem services[335] and a quasi-constitutional right to biodiversity preservation.

While there are shortcomings in the Quebec endangered species regime – that it only applies on public lands and habitat protections often apply only after the habitat area has been mapped – endangered species provisions do exist.[336] Practical experience with the Quebec regime, however, reveals its shortcomings. For example, a project that had received all provincial approvals conditional on the creation of a "conservation park" for the endangered Western Chorus Frog led to the first emergency order on private lands under the federal *Species at Risk Act*.[337]

The Akasaba West Copper-Gold Mine Bureau of Public Hearings on the Environment (BAPE) report highlights concerns that arise when mining developments have cumulative impacts on species. The mining proponent decided to use a pre-existing forest road that ran through endangered woodland caribou habitat. The road was approved by the Ministry of Forests, against internal scientific advice and without an environmental assessment.[338] The BAPE's concerns included impacts to the 16-member Val d'Or Caribou herd. The BAPE recommended an alternative – a less impactful route, and habitat compensation, but the mine was ultimately approved in July 2018, with no mention of the alternate route and minimal measures for habitat offsetting.[339]

Still, the 2013 changes to the Quebec *Mining Act* grant power to the Minister of Natural Resources to reserve or withdraw lands from mining activities for any public interest purpose including the "creation of parks or protection areas" and "plant-life and wildlife conservation."[340] Conditions on staking can be established, and the prior authorization of the Minister of Natural Resources may be required.[341]

The Quebec *Natural Heritage Conservation Act* allows for the creation of different types of protected areas that permit mining exploration but not exploitation, whereas permanent reserves prohibit both.[342] In practice, few areas are protected and confirmation of permanent reserves is delayed in some areas where, instead, mining rights have been protected even if the law doesn't intend such outcomes.[343]

The 2010 Quebec *Sustainable Forest Development Act* provides for the designation of Exceptional Forest Ecosystems that are "of special interest for the conservation of biological diversity, because of their scarcity or age."[344] Mining rights within Exceptional Forest Ecosystems may be terminated and

334 Ontario *Mine Development and Closure Regulation*, Schedule 2 lists the requirements for a closure plan; see, in particular, item 4 of Schedule 2.
335 Quebec *Sustainable Development Act*, ss. 6(i), (j), (k), (l) & (m).
336 Quebec *Act Respecting the Conservation and Development of Wildlife*, CQLR c C-61.1 [Quebec Wildlife Conservation Act]; *Règlement sur les habitats fauniques,* CQLR c C-61.1, r 18; *Loi sur les espèces menacées ou vulnérables*, CQLR c E-12.01; *Règlement sur les espèces fauniques menacées ou vulnérables et leurs habitats*, RRQ, c E-12.01, r 2.
337 *Centre Québécois du droit de l'environnement v. Canada (Environment)*, 2015 FC 773.
338 Indeed, even under the new regulation, which came in force in 2018, only roads of a width exceeding 35m are subject to the more rigorous process. No project proposals for forest roads have been filed with the MDDELCC since 2000 and none have been subjected to a BAPE inquiry and hearing since the founding regulation was adopted in 1980, because most forest roads are narrower than 35m, avoiding the threshold as set out in the Quebec EIA Regulation and therefore contributing to cumulative impacts and ecosystem degradation.
339 Akasaba West Copper-Gold Mine Project, "Decision Statement Issued under Section 54 of the Canadian Environmental Assessment Act, 2012," available online: https://ceaa-acee.gc.ca/050/evaluations/document/123014?culture=en-CA; Ministère de l'Énergie et des Ressources naturelles, "Mine Akasaba Ouest – feu vert environnemental au projet de mines Agnico Eagle ltée" (2018), available online: https://mern.gouv.qc.ca/mine-akasaba-ouest-projet-mines-agnico-eagle-ltee-2018-06-29/
340 Quebec *Mining Act*, s. 304 (1).
341 Quebec *Mining Act*, ss. 32(4) & 144.
342 Quebec *Natural Heritage Conservation Act*, ss. 34, 46 & 48.
343 Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques, "Informations sur la durée de mise en réserve: Réserves aquatiques projetées," available online: http://www.mddep.gouv.qc.ca/biodiversite/aquatique/reserveaqua_tableau.pdf
344 Quebec *Sustainable Forest Development Act*, CQLR c A-18.1 [Quebec SFDA], s. 31.

expropriated if they will have an adverse effect on the conservation of biological diversity.[345]

YUKON

Several Yukon laws – the *Parks and Land Certainty Act*,[346] the *Environment Act*[347] and the *Wildlife Act*[348] – provide mechanisms for the protection of biodiversity and ecosystems. However, these regimes are discretionary and there are explicit exemptions for mining activities regulated under the Yukon *Quartz Mining Act* (Yukon QMA).

The Yukon QMA does not contain any specific reference to consideration or protection of biodiversity or ecosystem services, though it restricts staking on or within territorial and national parks.[349] Further, the government may prohibit entry for mining purposes to any land that may be required for, among other things, a park or public purpose.[350] However, even the Yukon *Parks and Land Certainty Act* prioritizes resource development over park uses. In deciding whether to establish a park, the Commissioner in Executive Council shall "consider the means of minimizing the impact of establishment of the park on the current and future resource developments."[351] Thereafter, the only restrictions are that regulations, orders, permits, and management plans be in accordance with the purposes of the Act, which broadly reflects park purposes.[352]

Further, Yukon has no endangered species legislation; in submitting applications for permits, proponents are subject to environmental screenings under the YESAB and, through the regulatory process, required to demonstrate that they are adopting mitigation measures to minimize disturbance to wildlife.[353]

Only after parks are established or lands expressly withdrawn under the Yukon QMA can mineral exploration and development be significantly constrained.[354] Unless the order establishing the park expressly authorizes it, the Minister cannot issue a permit for industrial development within a park prior to a park management plan coming into force.[355] The Minister may not issue a park permit authorizing industrial development in an ecological reserve or a wilderness preserve, unless issuing the permit to a person who already holds a valid and subsisting interest in the land.[356] Outside of existing interests, a park permit may never authorize industrial development within an ecological reserve or wilderness preserve.[357]

NORTHWEST TERRITORIES

In the NWT, the protection of biodiversity and species at risk is a shared responsibility between the Government of Canada, the Government of the Northwest Territories (GNWT), Indigenous governments, and wildlife co-management boards established under modern treaties. As in other jurisdictions, the federal government retains authorities over fisheries, migratory birds, and all species and habitats on federal lands or in National Parks, while the GNWT and Indigenous Governments have responsibilities elsewhere. The NWT *Wildlife Act*[358] and the NWT *Species at Risk Act*[359] provide a framework for collaboration between authorities in the conservation and management of wildlife and wildlife habitat, including the establishment of conservation areas for all wildlife or the designation of critical habitats for species at risk. Such designations are discretionary, but once established can be used to limit or exclude mineral exploration or development in combination with other legislative tools.

The NWT is also subject to a comprehensive and integrated land and resource management regime under the *Mackenzie Valley Resource Management Act* (MVRMA) and a policy framework[360] that seeks to balance development with conservation. Modern land claims in the NWT require land use planning and approved land use plans include zones which may exclude or limit mineral exploration and development for conservation or cultural priorities. While not permanently protected, significant

345 Quebec SFDA, s. 35.
346 Yukon *Parks and Land Certainty Act*, RSY 2002, Ch. 165, http://www.gov.yk.ca/legislation/acts/palace_c.pdf
347 Yukon *Environment Act* RSY 2002, Ch. 76, http://www.gov.yk.ca/legislation/acts/environment_c.pdf
348 Yukon *Wildlife Act* RSY 2002, Ch. 229, http://www.gov.yk.ca/legislation/acts/wildlife_c.pdf
349 Yukon Energy, Mines and Resources, "Surface and Subsurface Rights Management" (Mineral Resources Branch/Land Management Branch, August 27, 2010) [Yukon Surface/Subsurface Info Sheet], p. 4.
350 Yukon *Quartz Mining Act* [Yukon QMA], s. 15.
351 Yukon *Parks and Land Certainty Act*, RSY 2002, c 165 [Yukon PLCA], s. 11(3)(b).
352 Yukon PLCA, s. 1. These purposes include implementing obligations under settlement agreements, protecting representative areas, providing recreational opportunities and encouraging appreciation of the natural environment.
353 Yukon Water Board & Yukon Energy, Mines and Resources, "Plan Requirement Guidance for Quartz Mining Project" (August 2013) [Yukon Plan Guidance], p. 23.
354 Yukon PLCA, s. 30.
355 Yukon PLCA, s. 31.
356 Yukon PLCA, ss. 32 & 33.
357 Yukon PLCA, s. 32.
358 NWT *Wildlife Act*, SNWT 2013, c. 30, available online: https://www.justice.gov.nt.ca/en/files/legislation/wildlife/wildlife.a.pdf
359 NWT *Species at Risk Act*, SNWT 2009, https://www.justice.gov.nt.ca/en/files/legislation/species-at-risk/species-at-risk.a.pdf
360 *Healthy Land, Healthy People*, available online: https://www.enr.gov.nt.ca/en/services/conservation-network-planning/healthy-land-healthy-people

areas are designated as conservation zones within the Inuvialuit, Gwich'in, Sahtu, and Dehcho regions and are unavailable for mineral exploration.

In addition, the Government of the Northwest Territories (GNWT) is working with Indigenous governments to complete a territorial network of conservation areas for permanent designations under federal and territorial protected areas legislation. Maintenance of biological diversity and ecological integrity are the primary objectives of the recently proclaimed NWT *Protected Areas Act*.[361] The NWT *Protected Areas Act* requires the collaboration and consent of Indigenous governments to identify and nominate candidate protected areas. Once nominated, the mineral rights in a candidate site are withdrawn, and once established as a territorial protected area, mineral exploration and development are prohibited under the legislation.

Additionally, the NWT *Mineral Resources Act* allows the Minister responsible for mines and minerals to grant or extend temporary withdrawal of specified lands having a unique archaeological, cultural, ecological, geological or historical significance that justifies their protection from prospecting activity. Such interim withdrawals are intended to be a stopgap mechanism to reduce conflicts between mineral exploration and biodiversity values, and to provide a bridge for such values to become permanent protection measures available under protected area or wildlife conservation legislation.

[361] See detailed discussion documents of the NWT Protected Areas Act, available online: https://www.enr.gov.nt.ca/en/services/initiatives-legislatives/protected-areas-act

Appendix E – Water Management

BRITISH COLUMBIA

Water usage for mining activities in BC is governed generally by the Health, Safety and Reclamation Code for Mines in British Columbia (BC HSR Code) and the BC *Water Sustainability Act*, enacted in 2014 as a modernization of the former *Water Act*. These changes expanded legislative control over groundwater withdrawal and introduced new legal tools for regulating water in times of scarcity, but the new act was also heavily criticized for missed opportunities in terms of protections for fish, wildlife and drinking water.

The BC HSR Code, Part 9, focuses on exploration activities, and contains several water resource protection requirements. These include maintaining surface and subsurface drainage patterns within the range of natural variability, protecting stream channel stability, and not degrading water quality at a potable water supply intake so that it fails to meet the potable water requirements of the *Drinking Water Protection Act*. The BC HSR Code also stipulates protection for community watersheds, riparian setbacks, and wetlands. Requirements for drainage systems, the storage of fuels, interference with licensed domestic uses, and groundwater flows are set out and remediation plans are required.

Under the BC *Mines Act,* a mine permit application must include a program for the protection and reclamation of watercourses affected by the mine.[362] Part 10 of the BC HSR Code includes requirements for water resources protection in relation to current conditions – surface drainage, impacted areas, water balance, and reclamation in the mine permit application. Watercourses must be left in a manner that ensures long-term physical and geochemical stability,[363] with sustainable drainage and productive capacity at the same level that existed before the mining activities began.[364] In addition, if water quality from any component of the mine results in exceedances of applicable provincial water quality standards in the receiving environment, remediation strategies must be implemented for as long as necessary to mitigate the problem when required by the chief inspector.[365]

Water management facilities and dams must be designed by a professional engineer and constructed and operated in accordance with prescribed timelines and reporting requirements.[366] In addition, the proponent must ensure that a tailings storage facility has a water balance and water management plan prepared by a qualified person for the permitted life of the mine.[367]

ONTARIO

Water withdrawals are authorized under the *Ontario Water Resources Act* (Ontario WRA) and associated regulations.[368] Detailed information is provided by the applicant to allow the government to make a permitting decision that takes into account the protection of the natural function of the ecosystem, water availability, conservation, and other users.[369] Most permits to take water are prescribed instruments under the *Ontario Environmental Bill of Rights, 1993* (Ontario EBR) and therefore subject to public consultation and third party right to seek leave to appeal. Authorizations for withdrawals and discharges are considered independently, making holistic water management a challenge. Identification of existing water users and uses is required for withdrawal and discharge permits but is not required to be done in a collaborative manner. Detailed monitoring and reporting are required for withdrawal and discharge permitting, including conditions related to adaptive management. A complete dataset of existing withdrawal permits is available for 2013.[370]

The Mine Reclamation Code of Ontario, which is contained in an Ontario Mining Act regulation, requires that a monitoring program be established for both groundwater and surface water.[371] Monitoring is required for hazardous substances and metals, including cyanide, arsenic, lead, and mercury.[372] The frequency

362 BC *Mines Act*, s. 10(1); BC HSR Code, s. 10.1.13(e).
363 BC HSR Code, s. 10.7.6.
364 BC HSR Code, s. 10.7.12.
365 BC HSR Code, s. 10.7.20.
366 BC HSR Code, ss. 10.4.1 & 10.5.1.
367 BC HSR Code, s. 10.1.12.
368 Ontario *Water Resources Act* (Ontario WRA), s. 34 (1); Ontario WRA, *Water Taking and Transfer*, O Reg 387/04.
369 For matters to be considered, see Ontario WRA, *Water Taking and Transfer*, O Reg 387/04, s. 4(2).
370 See Permit to Take Water Data Catalogue, available online: https://www.ontario.ca/data/permit-take-water, which allows anyone to find details of approved permits by using an interactive map. As well, the entire dataset, containing details for all permits, can be downloaded. The policy to make government data openly accessible to the public was an initiative of the province of Ontario under the previous government's mandate; it is unclear whether the current government will continue to support the initiative.
371 Mine Rehabilitation Code of Ontario, s. 41(1).
372 Mine Rehabilitation Code of Ontario, ss. 47(2) & 53(2).

and applicability of monitoring must be certified by a qualified professional.[373]

Monitoring of surface water is required to demonstrate that water quality is unimpaired and that it is satisfactory for aquatic life and other beneficial uses.[374] Once closed, a mine site is required to meet Provincial Water Quality Objectives,[375] unless that is not practicable, in which case a proponent may meet background levels that had been scientifically established previously.[376] Potentially, this provides a means for companies to avoid meeting these requirements.

Effluent from the mine site must not exceed the concentrations set out in an environmental compliance approval for effluent discharge or the limits prescribed in regulation,[377] whichever is more stringent.[378] Where effluent concentrations will exceed prescribed limits, proponents are to implement procedures to reduce concentrations or, if the prescribed limits cannot practicably be achieved, the proponent need not further control effluent concentrations as long as the Director is satisfied that the resulting load will not be significant.[379] If there has been an adverse effect on aquatic life, either during operation or at closure, the mine proponent must specify steps to be taken to establish "a diverse and viable aquatic community."[380]

For surface water, mandatory monitoring is to be conducted for discharge/seepage exiting the sources and the property boundary, as well as on-site and downstream water bodies and background reference sites.[381] Annual monitoring reports for mining effluent must be available to the public on request, including any monitoring results that demonstrate that contaminant concentrations have exceeded allowable limits.[382]

The objective for ground water monitoring is "to identify and characterize any potential impediments to beneficial use of ground water as a result of the presence of migration of contaminants,"[383] but there are no specified water quality objectives or standards unlike for surface water monitoring. A groundwater characterization study must be certified by a qualified professional[384] and must identify expected groundwater uses, potential for and nature of groundwater contamination, and the contamination migration potential.[385] Monitoring wells, if required, are to be set up both to establish baselines and to assess contamination.[386]

Where conditions could result in acid rock drainage or metal leaching, a management plan is required for materials or conditions.[387] Determining the potential for significant acid rock drainage or metal leaching is to be done through a mandatory sampling program,[388] which is undertaken by an Ontario-qualified professional geoscientist, agrologist, or engineer.[389] This approach falls below the IRMA Standard, which requires, first, that measures be put in place to prevent acid rock drainage from occurring, with further mitigation required only where it cannot be prevented.[390]

QUEBEC

Quebec law outlines extensive requirements for the protection of water resources. There are three water regimes of general application, all of which apply to mining activities. These regimes are: (1) the general protection against contaminants released in, or harm to, water bodies; (2) the protection of drinking water and aquatic ecosystems through integrated watershed management and control of water withdrawals; and, (3) protection of wetlands and water bodies through a new zero

373 Mine Rehabilitation Code of Ontario, ss. 49(2) & 55(2).
374 Mine Rehabilitation Code of Ontario, s. 37.
375 Mine Rehabilitation Code of Ontario, s. 38(2); Ontario's Provincial Water Quality Objectives are not contrasted/compared with IRMA Water Quality Criteria for the purposes of this report.
376 Mine Rehabilitation Code of Ontario, s. 38(2).
377 Ontario EPA, *Effluent Monitoring and Effluent Limits – Metal Mining Sector*, O Reg 560/94 [Ontario Mining Effluent Regulation].
378 Mine Rehabilitation Code of Ontario, s. 39(1).
379 Mine Rehabilitation Code of Ontario, ss. 39(2) & 39(3).
380 Mine Rehabilitation Code of Ontario, s. 40.
381 Mine Rehabilitation Code of Ontario, s. 47(1).
382 Ontario Mining Effluent Regulation, s. 35.
383 Mine Rehabilitation Code of Ontario, s. 50(1).
384 Mine Rehabilitation Code of Ontario, s. 51(1).
385 Mine Rehabilitation Code of Ontario, s. 51(2).
386 Mine Rehabilitation Code of Ontario, s. 52(3).
387 Mine Rehabilitation Code of Ontario, s. 59; Ontario *Mine Development and Closure Regulation*, s. 24(2)15.
388 Mine Rehabilitation Code of Ontario, s. 57.
389 Mine Rehabilitation Code of Ontario, s. 57(2).
390 IRMA Standard, Chapter 4.1.5.2.

net loss regime. Mining companies must submit annual effluent emission reports under the Quebec E*nvironment Quality Act* (Quebec EQA), which includes a list of parameters regarding mercury, cyanide, and other minerals and nutrients.[391]

Mining activities are governed by the Quebec EQA regime, which requires a specific authorization for withdrawals over a maximum flow rate of 75 000 litres per day (or less if the water is taken out of the Saint Lawrence River Basin).[392] Any authorized water withdrawals must ensure the protection of the resource in light of the precautionary principle and the effects of climate change, give priority to public health and drinking water supply needs, and aim to reconcile the protection needs of aquatic ecosystems and competing human activities.

Since 2018, these authorizations must also take into account: the short-, medium- and long-term water use rights of other persons or municipalities; the availability and distribution of water resources, with a view to satisfying or reconciling current and future needs of the various water users; the foreseeable development of rural and urban areas, particularly regarding the objectives of land use planning or the development plan of any regional or county municipality, or metropolitan community, affected by the withdrawal, and for the balance that must be maintained between the various water uses; and, the economic development of a region or municipality.[393]

This regime applies to all mining activities except for temporary withdrawals for exploration.[394] That this regime includes future needs is notable and is in line with the IRMA Standard, Chapter 4.2.3.4, whereas other jurisdictions focus on competing uses. Mines situated less than one kilometre from a downstream catchment for surface or groundwater intended for human consumption are subjected to a regulatory groundwater quality monitoring program.[395] Notably, the 2013 *Mining Act* amendments also eliminated provisions granting special rights to divert, drain or convert waterways, lakes or wetlands.[396]

Quebec approximates the IRMA Standard for consulting with local communities and stakeholders on planning long-term water goals and protection measures through the creation in 2009 of 40 regional watershed organizations in Quebec which collaborate to develop water master plans for their respective regions. Indeed, Quebec law requires the creation of watershed bodies to develop water master plans with Indigenous and stakeholder input that could ultimately set conditions for approved projects, including mines.[397] Further, since 2018, the power to authorize water withdrawals includes consideration of public input.[398]

In addition to the watershed planning provisions, the Quebec EQA establishes a wetlands regime that creates a mitigation hierarchy for wetlands based on avoidance, mitigation and compensation.[399] Where wetlands destruction is unavoidable, or cannot be mitigated, the regime requires financial compensation (rather than land compensation).[400] However, mining exploration and exploitation are exceptions to this financial compensation requirement where a proponent undertakes work "to restore or create wetlands or bodies of water."[401] This would apply where in-kind wetland restoration with reclamation at the end of the project is planned. Whether it is technically feasible to rebuild functioning wetlands after mining operations remains to be determined. This exception is problematic and defeats the purpose of the wetlands provision.

YUKON

The Yukon Water Board has the authority to assess and issue water licences.[402] Prior to issuing a water licence for mining, an environmental assessment must be completed under the *Yukon Environmental and Socio-economic Assessment Act* (YESAA). The Water Board cannot issue a water licence until the Decision Bodies under that Act have issued a Decision Document, and any water licence issued must comply with its conditions.[403]

When evaluating applications for licences, the Yukon Water Board is to ensure that waste is treated and disposed of in a

391 Quebec Directive 019, 2012, p. 13, Table 2.4. Directive 019's 2012 update focused on the water regime and contaminated lands and at first glance seems to cover the main aspects of water protection: management of effluents, protection and monitoring of groundwater, including after exploitation. It does not integrate the wetlands regime included in 2017.
392 Quebec EQA, s. 31.75.
393 Quebec EQA, s. 31.76.
394 Quebec EQA, *Water Withdrawal and Protection Regulation*, CQLR c Q-2, r 35.2, s. 6(4)(a).
395 This requirement applies to mines with a production capacity of 50 000 tonnes or more of ore per year for iron ore, gold and silver, copper, nickel, lead and zinc, other metal ore and asbestos. Quebec EQA, Quebec *Land Protection and Rehabilitation Regulation*, CQLR c Q-2, r 37 [Quebec Land Protection Regulation], s. 4 & Schedule IV.
396 Quebec *Mining Act*, ss. 237-238 (repealed).
397 Quebec *Collective Nature of Water Resources Act*, ss. 1 & 14. See also, "Les organismes de bassins versants," available online: https://robvq.qc.ca/obv
398 Quebec EQA, s. 31.76.
399 Quebec EQA, s. 46.0.1.
400 Conversation with Mme Prunelle Thibault Bédard, wetlands legal expert, August 2018.
401 Quebec EQA, Quebec *Regulation respecting compensation for adverse effects on wetlands and bodies of water,* CQRL c Q-2, r 9.1, ss. 10 (2) & (3).
402 Yukon Water Board Guide, p. 2.
403 Yukon Water Board Guide, p. 2; YESAA, s. 86.

manner consistent with the water quality and effluent standards prescribed by regulation.[404] Also, a compensation agreement for those adversely impacted by the water use is possible,[405] though minimum standards still must be met. This compensation agreement requirement is akin to the IRMA Standard, which allows for agreements between stakeholders that would deviate from water quantity protections in legislation,[406] noting again that the minimum standards must be met.

The Yukon Water Board may require security to issue a water licence and, in theory, could take security for reclamation as well.[407] The Board is prevented from issuing a licence unless satisfied that the proponent has the financial ability to complete the appurtenant undertaking, associated mitigative measures, and satisfactory maintenance and restoration of the site.[408]

In the Yukon, the deposit of waste into water is prohibited except in accordance with a licence.[409] Even where the water use or waste discharge falls below the thresholds specified for a licence, if it occurs in pursuit of a hard rock mining activity then the proponent must file a *Notification of Water Use/Waste Deposit Without a Licence* form, so that all water use can be tracked.[410]

NORTHWEST TERRITORIES

Regulation of the use of waters is managed under the co-management regime by land and water boards. Most of the NWT is managed under the *Mackenzie Valley Resource Management Act* (MVRMA), which operates in conjunction with the territorial *Waters Act*,[411] through which the land and water boards have jurisdiction for the regulation of water uses and deposits of waste into waters through water licences. As in the Yukon, the issuance of a significant (Class A) water licence requires a screening process and is typically referred to a full environmental assessment by the Mackenzie Valley Environmental Impact Review Board (MVEIRB).

The NWT *Waters Regulations* specify eight types of undertakings that require a licence, and two types of licence, based on the potential water use and water disturbance caused by the project, or the amount of waste to be deposited.[412]

The land and water boards have developed and issued guidelines for the regulation of policy matters concerning permitted water use under the MVRMA.[413] The water licensing process addresses all effluent quality criteria, requires ongoing monitoring, and reports monitoring results from water licence holders for public review on a public registry.

In addition, the Government of the Northwest Territories has implemented an extensive water monitoring network, involving proponents, communities, Indigenous governments, and other partners in measuring physical, chemical and biological indicators of the health of aquatic ecosystems. This information is publicly accessible and is used both to inform baseline assessments and detect changes that might result from mining.[414]

404 Yukon *Waters Act*, s. 12(4)(c).
405 Yukon *Waters Act*, s. 12(4).
406 IRMA Standard, Chapter 4.2.3.4.
407 Yukon *Waters Act*, s. 15.
408 Yukon *Waters Act*, s. 12(4)(d).
409 Yukon *Waters Act*, s. 7(1).
410 Yukon Environment, "Best Management Practices for Works Affecting Water in Yukon" (May 2011), p. 7.
411 NWT *Waters Act*, SNWT, 2014, c 18.
412 NWT *Waters Regulations*, NWT R-019-2014.
413 MVRMA, ss. 65, 102(1) & 106.
414 See NWT Water Management and Monitoring Division, available online: https://www.enr.gov.nt.ca/en/services/water-management/water-monitoring-and-assessment

Appendix F – Waste Management

BRITISH COLUMBIA

Under BC law, requirements for the management of mine waste are contained in the mine permit issued under the BC *Mines Act* and through the provisions of the Health, Safety and Reclamation Code for Mines in British Columbia (BC HSR Code). As part of the BC *Mines Act* permit application, proponents must prepare and submit a plan outlining details of the proposed work, and a program for the conservation of cultural heritage resources, and protection and reclamation of the land and watercourses affected by the mine.[415]

In response to the Mount Polley Independent Expert Investigation and Review Report recommendations,[416] BC has implemented measures that could be IRMA Standard-compliant. For example, each mine in BC must now have an Independent Tailings Review Board. Other improvements are express requirements for Best Available Technologies in relation to tailings dams – it is defined in the BC HSR Code and included in an alternatives assessment for mine waste.[417] Also, tailings storage and water management facilities and associated dams must be inspected annually with a report prepared by the Engineer of Record.[418] Further, a Dam Safety Review Report on the tailings storage, water management facilities and associated dams shall be prepared by an independent professional engineer at least every 5 years.[419] However, it remains unclear what, if any, actions will be required as a result, as the IRMA Standard seeks to ensure continual improvements which are not guaranteed by these measures.

Additionally, alternatives assessments for proposed tailings storage facilities considering best available technology must be submitted as part of the BC *Mines Act* permit application,[420] along with a conceptual reclamation plan for the closure or abandonment of all aspects of the mining operation[421] and a closure plan for the tailings storage facility.[422] Impoundment and tailings storage facilities must be designed by a professional engineer,[423] and dumps and tailings storage facilities must also abide with design,[424] governance (including a Tailings Management System),[425] and operational requirements (including requirements for an Operations, Maintenance and Surveillance Manual for tailings facilities and dams).[426] This includes a requirement to design, operate and monitor major dumps in consideration of the Interim Guidelines of the British Columbia Mine Waste Rock Pile Research Committee,[427] and to ensure that the long-term stability of exposed slopes of any major dump meets the criteria provided in such guidelines.[428]

Concerns remain that the reforms are not adequate to protect against future catastrophes like Mount Polley and that BC has not gone far enough to respond to the wake-up call regarding mine waste storage that it presented. One expert review of the response to the Expert Panel recommendations has found that BC still has no working definition of "best available technology" that would enable advances to be measured or evaluated; that BC is still not considering fundamental waste storage technology changes that would depart from business as usual, such as dry closure of tailings; and, that the establishment of independent tailings dam review boards is not in itself a guarantee of ongoing improvements.[429]

The BC HSR Code imposes limits on exposure to workplace contaminants;[430] and sets out more specific requirements on mine waste materials and protection therefrom. Other provisions

415 BC *Mines Act*, s. 10(1).
416 Independent Expert Engineering Investigation and Review Panel, *Report on Mount Polley Tailings Storage Facility Breach*, January 30, 2015, available online: https://www.mountpolleyreviewpanel.ca/final-report [Expert Report on Mount Polley].
417 Government of British Columbia, "Update on Implementation of Recommendations from the Expert Panel Report and the Chief Inspector of Mines Investigation Report" (2017), available online: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/health-and-safety/code-review/mp_recommendationstable_feb2017_update_final.pdf
418 BC HSR Code, s. 10.5.3.
419 BC HSR Code, s. 10.5.4.
420 BC HSR Code, s. 10.1.3(f).
421 BC HSR Code, s. 10.1.3(g).
422 BC HSR Code, s. 10.1.3(h).
423 BC HSR Code, s. 10.1.14.
424 BC HSR Code, s. 10.1.
425 BC HSR Code, s. 10.4.2.
426 BC HSR Code, s. 10.5.
427 BC HSR Code, ss. 10.1.15 & 10.5.5.
428 BC HSR Code, s. 10.6.5.
429 See, First Nations Women Advocating Responsible Mining, "Mount Polley Mine Disaster Check Up: Inaction, Uncertainty and Ongoing Risks for BC" (2018), available online: http://fnwarm.com/wp-content/uploads/2018/09/Mt-Polley-Mine-Disaster-CheckUp-2018.pdf [FNWARM Report].
430 BC HSR Code, s. 2.1

include requirements to: control, dispose and store hazardous wastes and materials;[431] examine and communicate any abnormal or hazardous conditions with respect to the dump or stockpile area on the surface of a mine;[432] prepare and maintain a plan consistent with good engineering practice for dumps, stockpiles, minor impoundments, roads, or ramps that are to be constructed as part of a dumping operation, which plan must include monitoring for safety;[433] and, remove all waste, including waste timber, from underground mines on a regular basis.[434]

BC *Mines Act* permit applications also are to include information regarding: the locations of all proposed or existing surface and underground mining developments, waste disposal areas, stockpiles, processing facilities, mine buildings and other mining-related disturbances or infrastructure; projected volumes of ore and waste to be produced and relative time of production; designs and details for tailings storage and a description of proposed quantifiable performance objectives; and, designs for material handling and waste disposal procedures.[435] Concerns remain that this latter requirement is discretionary and constitutes inadequate regulatory guidance.[436]

The BC *Mines Act* permit application must also include: plans for the prediction, identification and management of physical, chemical, and other risks associated with tailings storage facilities and dams; prediction and, if necessary, prevention, mitigation and management of metal leaching and acid rock drainage; erosion control and sediment retention; and, environmental monitoring and surveillance.[437]

ONTARIO

Requirements for the handling, treatment and disposal of mining waste are found in the Mine Rehabilitation Code of Ontario, which is Schedule 1 to the Ontario *Mine Development and Closure Regulation* under the Ontario *Mining Act*,[438] the Ontario *Environmental Protection Act*, and the Ontario *Lakes and Rivers Improvement Act*.[439]

The Mine Rehabilitation Code of Ontario sets out the objective "to ensure the long-term stability of tailings dams and other containment structures."[440] How the mandatory requirements of the Dam Safety Guidelines for design, construction, maintenance and decommissioning of tailings dams and other containment structures will be met are to be detailed in the closure plan.[441] All tailings, rock piles, overburden piles and stockpiles must be rehabilitated or treated to ensure permanent physical stability and effluent quality[442] and impoundment structures must be certified by a qualified professional engineer.[443] Certification by a qualified engineer is required for tailings storage; however, this does not equate to an independent technical review requirement as intended by the IRMA Standard.

Construction of tailings dams is approved under the Ontario *Lakes and Rivers Improvement Act*. There are no requirements specific to minerals exploration and mine development. Dam construction is not captured under the Ontario *Environmental Bill of Rights, 1993* (Ontario EBR), therefore there is no mandatory public consultation.

Discharging industrial wastewater (including settling ponds and tailings dams) is authorized under the Ontario *Environmental Protection Act* (Ontario EPA).[444] An industrial sewage works environmental compliance approval is an instrument under the Ontario EBR, with public consultation and third party right to seek leave to appeal.[445] Sampling and analyses of discharged waters are reported to the government through the online Ministry of the Environment Wastewater System.

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. Some requirements for reporting data and making adjustments will be in the industrial sewage works environmental compliance

431 BC HSR Code, s. 2.3.
432 BC HSR Code, s. 6.5.2.
433 BC HSR Code, s. 6.10.1.
434 BC HSR Code, s. 6.30.1.
435 BC HSR Code, s. 10.1.3(d).
436 FNWARM Report, p. 8.
437 BC HSR Code, s. 10.1.3(e).
438 Mine Rehabilitation Code of Ontario.
439 Ontario *Lakes and Rivers Improvement Act*, RSO 1990, c L3, and Construction, O Reg 454/96.
440 Mine Rehabilitation Code of Ontario, s. 35.
441 Mine Rehabilitation Code of Ontario, s. 36.
442 Ontario *Mine Development and Closure Regulation*, s. 24(2)14.
443 Ontario *Mine Development and Closure Regulation*, s. 24(2)16.
444 Per an "industrial sewage works environmental compliance approval" pursuant to Ontario EPA, Part II.1, as well as the associated effluent monitoring and limits pursuant to the Ontario Mining Effluent Regulation.
445 See, for example, Ontario EBR Registry Number: 012-9939 decision notice containing a description of the appeal right.

approval. The Mining Rehabilitation Code of Ontario is silent on the issue of riverine, submarine or lake disposal of tailings, and the Ontario EPA does not address this issue specifically either.

QUEBEC

In Quebec, mine-related waste falls within one of three categories, each with its own regime and each treated separately. Waste is either non-hazardous residual material, hazardous waste, or mine tailings.[446]

Mine tailings management is regulated under the Quebec *Mining Act*. The definition of tailings includes waste rock – tailings and waste rock are treated the same except with regard to reclamation method.[447] A rehabilitation and restoration plan is required for any activity that will require a tailings storage facility.[448] Mine tailings storage sites must be approved by the Minister,[449] and "the location of other sites considered and the reasons justifying the choice of the location of the site applied for"[450] must be provided by the proponent. Quebec prohibits the use of riverine, submarine or lake disposal for mine wastewater in Directive 019,[451] which also states that uncontaminated overburden should be kept and stored for future rehabilitation work, specifically segregating and reserving topsoil.[452]

Other non-hazardous mine waste is regulated through other legislation, namely the Quebec *Environment Quality Act* (Quebec EQA).[453] Landfills on mining sites and their closure measures must comply with the provisions of the Quebec Policy on Residual Materials and the *Regulation respecting the landfilling and incineration of residual materials*.[454] The Quebec EQA contains a contaminated soils regulation.[455] Mine tailings and effluent treatment sludge "from a tailings storage yard" are not considered "hazardous material" for the purposes of the *Regulation Respecting Hazardous Materials*,[456] implying that moving them beyond the site could trigger the regulation's application. The definition of hazardous waste does, however, cover other types of mine-related waste that must be dealt with according to the regulation.[457]

Note there are no general requirements to use best available technologies, not even for waste management, but the 2018 Quebec EQA amendments contain specific exemptions for research and testing authorization for new technologies meant to improve environmental protections.[458]

YUKON

The Yukon *Quartz Mineral Act* regulations include operating conditions that address mine waste management of solid waste, spills, release of sediment, and waste rock. At the mine approval stage, either through the Yukon Environmental and Socio-economic Assessment Board (YESAB), the Yukon Mining Board, or the Water Board, key licences are issued to project proponents that have secured environmental assessment approval. In submitting plans to the boards, project proponents are expected to provide the following:[459]

- A Hazardous Materials Management Plan that describes "the transportation, storage, use, handling and disposal of hazardous materials utilized at the mine site to ensure protection of the environment and human health;[460]
- An Environmental Monitoring, Surveillance, and Reporting Plan specifying various types of monitoring programs to be undertaken, including water, geotechnical, meteorological, mine infrastructure and working, aquatic environmental, terrestrial environmental, and progressive reclamation effectiveness;[461]
- A Spill Contingency plan;[462]

446 Quebec Directive 019, 2012, p. 67.
447 Ministère de l'Énergie et des Ressources naturelles, "Guidelines for Preparing Mine Closure Plans in Québec" (2017), available online: https://mern.gouv.qc.ca/english/mines/reclamation/documents/guidelines-mine-closure.pdf [Quebec Mine Closure Guidelines].
448 Quebec *Mining Act*, s. 232.1; Quebec Regulation Respecting Mineral Substances, s. 109.
449 Quebec *Mining Act*, s. 241; Quebec Regulation Respecting Mineral Substances, s. 124.
450 Quebec Regulation Respecting Mineral Substances, s. 124 & 124(2).
451 Quebec Directive 019, 2012, p. 9, s. 2.1.
452 Quebec Directive 019, 2012, p. 25.
453 Quebec EQA, s. 53.2.
454 Quebec EQA, *Regulation respecting the landfilling and incineration of residual materials,* CQLR c Q-2, r 19, ss. 24, 89 & 147.
455 Quebec EQA, *Regulation respecting the burial of contaminated soils*, c Q-2, r 18, ss. 5 & 6. Soils from which at least 90% of contaminants have been removed are not to be disposed through the soil burial process described in the Regulation, nor are soils with available cyanide (CN-) 300, or Mercury (Hg) 50, mg/kg of dry matter (ppm). Radioactive materials are also exempt from soil burial eligibility (s. 3). Sections 5 and 6 of the Regulation rule out the placement of these burial sites within 1 km upstream of the surface intake of a municipal water source, or anywhere within the 100-year floodplain of any watercourse or body of water.
456 Quebec EQA, *Regulation Respecting Hazardous Materials*, CQLR Q-2, r 32, s. 2(10).
457 Quebec Mine Closure Guidelines, p. 70.
458 Quebec EQA, s. 29.
459 Yukon Plan Guidance, pp. 10-15 & 32.
460 Yukon Plan Guidance, p. 16.
461 Yukon Plan Guidance, pp. 18-22.
462 Yukon Plan Guidance, p. 26.

- A Sediment and Erosion plan;[463] and,
- A Development and Operations Plan for mine development, mill development, heap leach and process facilities, tailings management, waste rock and overburden management, and road construction.[464]

On paper, the licensing process in the Yukon has potential to meet the IRMA Standard. Internal guidelines set out the level of scrutiny required in issuing permits under the Yukon *Waters Act* and Yukon *Quartz Mineral Act* and set out best practices for the monitoring of mine waste management, facilities, and impacts. However, these guidelines are discretionary, and there are no legislated requirements to conduct risk assessment or monitor ongoing risk. There are no requirements for alternatives assessments, continual improvement, or independent reviews, nor are best available technologies or practices factors in mine waste management. Until these mechanisms become non-discretionary and more transparent, the Yukon regime will not achieve the IRMA Standard.

NORTHWEST TERRITORIES

In most of the NWT, land and water boards regulate the deposit of waste through land and water licences under the *Mackenzie Valley Resource Management Act* (MVRMA).[465] The deposit of waste is also regulated under the NWT *Waters Act*. The regulations associated with each of these speak to informational requirements and rely on guidelines and best practices for implementation. Mines in the NWT depositing waste in waterbodies also require effluent quality criteria to be set and must report in accordance with an Aquatic Effects Monitoring Program.[466] Waste management plans must be submitted for Board approval following a public hearing process. Approved plans are subject to ongoing re-licensing conditions, which also require a public hearing process. In order to obtain a land use or water permit, proponents demonstrate adherence to the Board Water and Effluent Quality Management Policy.[467]

In this regard, the water protection and reporting criteria in the NWT is sufficient to meet the IRMA Standard.

463 Yukon Plan Guidance, p. 29.
464 Yukon Plan Guidance, pp. 32, 38, 42, 52, 62 & 68.
465 MVRMA, ss. 65, 102(1) & 106.
466 MVLWB/GNWT, "Guidelines for Aquatic Effects Monitoring Programs," March 2019, available online: https://wlwb.ca/sites/default/files/aemp_guidelines_-_mar_5_19.pdf
467 MVLWB/GNWT, "Water and Effluent Quality Management Policy," March 31, 2011, available online: https://mvlwb.com/sites/default/files/documents/MVLWB-Water-and-Effluent-Quality-Management-Policy-Mar-31_11-JCWG.pdf

Appendix G – Reclamation, Closure and Security

BRITISH COLUMBIA

Reclamation and Closure in BC

Under the BC *Mines Act,* a program for the reclamation of the land, watercourses and cultural heritage resources affected by a mine must be submitted along with the mine permit application.[468] The Health, Safety and Reclamation Code for Mines in British Columbia (BC HSR Code or the Code) expands on this requirement by specifying that a conceptual reclamation plan for the closure or abandonment of the mining operation must be submitted with the permit application. The permit application includes plans for long-term post-closure maintenance of facilities and proposed use and capability objectives for the land and watercourses.[469] A closure plan for the tailings storage facility must also be submitted.[470]

Part 9 of the Code includes specific reclamation requirements for exploration activities, including requirements regarding soil conservation, access (which considers access impacts on ecosystems, waterways, etc.), deactivation, stream crossings, drill sites, camps, timing, pits, erosion and weeds, and revegetation.

Part 10 of the Code includes specific requirements for closure and reclamation, including requirements regarding dumps, progressive reclamation, impoundments, tailings facilities, land capability and stability, structures and equipment, access roads, openings, ecological risks, water quality, and monitoring. These reclamation and closure plans must be:[471]

a) prepared in consideration of the health and safety of the public and persons involved in the work;

b) designed to make it as practicable as possible to mine zones affected by the plan in the future;

c) designed to protect the land and watercourses; and,

d) prepared in consideration of the Health, Safety and Reclamation Code for Mines in British Columbia Guidance Document, by qualified professionals or persons who, in the opinion of the chief inspector, are qualified to perform the work.

Security in British Columbia

The chief inspector may require the company to give security for mine reclamation as a condition of issuing a mine permit. The amount, form, and conditions are specified by the chief inspector, and provide for protection and mitigation of damage to watercourses and cultural heritage resources affected by the mine.[472]

An estimate of the total expected costs of outstanding reclamation obligations over the planned life of the mine, including the costs of long-term monitoring and maintenance, must be submitted with the mine permit application, though this information can be kept confidential where approved by the chief inspector.[473] Accordingly, unlike the IRMA Standard, there is limited public engagement on each of the following:

- Review of estimated costs to carry out reclamation and closure plans (unlike the IRMA Standard which mandates a 60-day review under Chapter 2.6.2.5 and public disclosure under Chapters 2.6.2.6 and 2.6.4.4); and,
- Comment on financial surety calculations (unlike the IRMA Standard which mandates a 60-day review under Chapter 2.6.4.5)

Further, although an estimate of the expected reclamation costs must be submitted to BC, the government does not always require a level of security that meets the total estimated amount, nor is it always consistent or formally documented.[474] Concurrently, there is a lack of transparency regarding the method by which the province determines when less security may be acceptable. To ensure consistent application of financial security requirements across BC and the protection of the public purse, the province should take into account specific factors in setting the security – including the likelihood and consequence of a mine operator default, the stage of mine life, and the financial strength and compliance history of the mining company.[475] This requires specialized expertise.

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468 BC *Mines Act,* s. 10(1).
469 BC HSR Code, s. 10.1.3 (g).
470 BC HSR Code, s. 10.1.3 (h).
471 BC HSR Code, s. 10.1.17.
472 BC *Mines Act*, s. 10(4).
473 BC HSR Code, s. 10.1.3(i).
474 Ernst & Young LLP, *EY report & recommendations for BC's mine reclamation financial security policy* (February 2017), available online: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/reclamation-and-closure/bc_mem_ey_report_on_mine_reclamation_security_final.pdf [Ernst & Young], p. 10 & 24. See also, "Mine reclamation security in British Columbia," available online: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/permitting/fs_mine_reclamation_security_in_bc_may_20_final.pdf

The BC Auditor General's 2016 audit of compliance and enforcement in the mining sector documented numerous shortcomings of the BC regime. Among the findings are that the BC Ministry of Energy and Mines only held security for less than half of the estimated environmental liabilities at BC mines.[476] The Auditor General has made numerous recommendations to strengthen BC's security regime in order to protect the public – these include ensuring that reclamation liability estimates are accurate, that security amounts are sufficient, and requiring public reporting of estimated liability and security for each mine.[477] Additional resourcing is required to help address these shortcomings.[478]

Finally, there are no specific financial assurance measures for disasters or accidents such as tailings pond breaches, mine explosions or unpermitted releases of contaminants.[479] This shortcoming was also identified in the same 2016 Auditor General Report and the subject of recommendations to protect against catastrophic events.[480] As such, the BC public is exposed to significant potential financial risk should a mine be forced into insolvency or become bankrupt as a result of an unauthorized pollution event.

A series of reports released by the BC First Nations Energy and Mining Council (BC FNEMC) proposes specific recommendations to strengthen the security regime in the province, for both mine reclamation and mine disasters, and includes considerations for the role of Indigenous nations in this regime.[481]

ONTARIO

Reclamation and Closure in Ontario

In Ontario, a closure plan is required prior to commencing (or recommencing) advanced exploration and mine production.[482] Public consultation requirements for closure plans (including financial assurance) is limited to a 30-day comment period, and the list of items for inclusion is identified in regulation.[483] The proponent is solely responsible for ensuring that the closure plan measures and rehabilitation are carried out.[484]

A certified closure plan must be filed for advanced exploration or mine development.[485] Certification of a closure plan is to be completed by an individual proponent or by the corporation's chief financial officer and one other senior officer.[486] Among other things, the certification demonstrates that the mine proponent relied on "qualified professionals" in the preparation of the closure plan[487] and that the amount of financial assurance is sufficient.[488] Where disputes arise concerning consultation with Indigenous communities on closure plans, there is a dispute mechanism in place in which the Minister may provide direction on consultation and must provide reasons in support of their direction.[489]

The mine proponent is required to "take all reasonable measures to prevent personal injury or property damage that is reasonably foreseeable as a result of closing out the project."[490] The minimum requirements for rehabilitation to be met include those related to: safety of the site (e.g., openings to the surface); removal of infrastructure (e.g., buildings, transmission lines,

475 Ernst & Young, pp. 12, 30-31.
476 Office of the Auditor General of BC, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016, available online: http://www.bcauditor.com/pubs/2016/audit-compliance-and-enforcement-mining-sector, p. 6.
477 Office of the Auditor General of BC, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016, available online: http://www.bcauditor.com/pubs/2016/audit-compliance-and-enforcement-mining-sector, pp. 12-15.
478 Ernst & Young, p. 14.
479 Union of British Columbia Indian Chiefs, "Toward Financial Responsibility in British Columbia's Mining Industry" (May 2016), available online: https://miningwatch.ca/sites/default/files/toward_financial_responsibilty.pdf, pp. 44, 52-55.
480 Office of the Auditor General of BC, *An Audit of Compliance and Enforcement of the Mining Sector*, May 2016, available online: http://www.bcauditor.com/pubs/2016/audit-compliance-and-enforcement-mining-sector, Recommendation 1.4.
481 See *Mining Risk and Responsibility, Reducing the Risk of Mining Disasters in BC,* and *Using Financial Assurance to Reduce the Risk of Mine Non-Remediation*, available online: http://fnemc.ca/resources-2/
482 Ontario *Mining Act*, s. 140(1) (advanced exploration) & s. 141(1) (mine development).
483 Ontario *Mine Development and Closure Regulation*, s. 11(1); the prescribed items and information (in the order in which they are to be included) are listed in Schedule 2.
484 Ontario *Mine Development and Closure Regulation*, s. 12(1).
485 Ontario *Mining Act*, s. 140(4) (advanced exploration) & 141(3) (mine development).
486 Ontario *Mine Development and Closure Regulation*, s. 12(2).
487 Ontario *Mine Development and Closure Regulation*, s. 12(2)(b).
488 Ontario *Mine Development and Closure Regulation*, s. 12(2)(d).
489 Ontario *Mining Act,* s. 170.1; Ontario Mine Development and Closure Regulation, s. 8.2.
490 Ontario *Mine Development and Closure Regulation*, s. 24(1).

waterlines, air strips) and materials (e.g., equipment, machinery, chemicals, explosives); and, closing and revegetating access roads/trails and landfill sites.[491] Ongoing physical stability monitoring is required.[492]

The standard of rehabilitation is to the former land use or the Director's discretionary alternative. Rehabilitation standards can be exceeded in a closure plan, at the Director's discretion.[493] Determining the appropriate revegetation measures requires consideration of: future land use, climatic conditions, revegetation area size, presence of water bodies and sensitive ecosystems, availability of suitable stockpiled materials, natural revegetation and species success, drainage needs, erosion potential, and soil characteristics.[494]

Inspection must be conducted semi-annually until vegetation is successfully established.[495] Once established, annual inspection is required to determine maintenance needs and progress toward a self-sustaining ecosystem.[496] Monitoring and inspection can be discontinued once self-sustaining cover is established and objectives[497] are achieved.[498]

Closure plans are anticipated to be updated with material changes, however, there is no requirement for 5-year reviews, and while some information is available, copies of closure plans and other approvals are not readily available.

Security in Ontario

Details of the expected costs are required in the closure plan "including a detailed expenditure, capital costs and operating costs based on the market value of the material goods and services provided." [499]

Financial assurance must be submitted with closure plans.[500] The corporate financial test is an allowed means of fulfilling the financial surety requirement in Ontario, the use of which falls below the IRMA Standard.[501] Corporate financial compliance links credit ratings with the term of financial assurance – the better the credit rating, the longer the term – for either the life of the mine or for the first half of the life of the mine.[502] If the proponent is not able to meet the corporate financial test then financial assurance (such as cash, bank credit letter, insurance bond, mining reclamation trust) that is acceptable to the director is to be provided.[503] The director can order performance of rehabilitation[504] and can recover the expense of remediation from financial assurance.[505] Financial surety instruments are not subject to third-party review and are not required to be reviewed at minimum every 5 years. The discretion throughout this system means it is not IRMA Standard-compliant.

QUEBEC

Reclamation and Closure in Quebec

The regime in Quebec is the most IRMA Standard-compliant of all of the jurisdictions surveyed. The Quebec *Mining Act* and the Quebec *Regulation respecting mineral substances other than petroleum, natural gas and brine*, contain provisions requiring companies to reclaim land affected by their activities. These requirements apply to both mineral exploration and mining operations. The law requires corporations to submit reclamation plans and provide financial guarantees covering the full cost of reclamation work.

The Quebec *Mining Act* sets out reclamation requirements that apply to exploration and to metal mining operations.[506] Reclamation plans are to be approved by the Minister of Natural Resources and Minister of Environment in advance of mining activities.[507] Closure plans and financial guarantees must be approved by the Minister of Natural Resources before exploration work begins or a mining lease can be issued.[508]

491 Ontario *Mine Development and Closure Regulation*, s. 24(2).
492 Mine Rehabilitation Code of Ontario, s. 61.
493 Ontario *Mine Development and Closure Regulation*, s. 21.
494 Mine Rehabilitation Code of Ontario, s. 69.
495 Mine Rehabilitation Code of Ontario, s. 77(1).
496 Mine Rehabilitation Code of Ontario, s. 78.
497 Mine Rehabilitation Code of Ontario, s. 68.
498 Mine Rehabilitation Code of Ontario, s. 79(2).
499 Ontario *Mine Development and Closure Regulation*, Schedule 2, Costs.
500 Ontario *Mine Development and Closure Regulation*, s. 13(2).
501 IRMA Standard, 2.6.4.3: "Self-bonding or corporate guarantees shall not be used."
502 Ontario *Mine Development and Closure Regulation*, ss. 16 & 17.
503 Ontario *Mining Act*, s. 145(1).
504 Ontario *Mining Act*, s. 145(2).
505 Ontario *Mining Act*, s. 145(5).
506 Quebec *Mining Act*, s. 232.1; Quebec Regulation Respecting Mineral Substances, ss. 109-110.
507 Quebec *Mining Act*, s. 232.5.
508 Ministère de l'Énergie et des Ressources naturelles, "Legislative Provisions," available online: https://mern.gouv.qc.ca/en/mines/mining-reclamation/legislative-provisions/; Quebec *Mining Act*, s. 101, 232.2.

The Quebec *Mining Act* specifies the content of closure plans and requires that a backfill feasibility study be included, in the case of an open pit mine.[509] Plans must be revised every 5 years or at any time that changes in mining activities justify it.[510] The plan is also subject to public consultation only where covered by the major projects review process.[511] When closure is completed, the Ministry of Natural Resources consults the Ministry of the Environment before issuing a certificate of release.[512] A mining company may also be released from the requirement to reclaim its mining site if the Ministry of Natural Resources agrees to let a third party assume the obligations.

The 2017 *Guidelines for Preparing Mine Closure Plans in Québec* outline technical requirements for mine closure. Quebec requires timely remediation for exploration, as well as extensive closure and reclamation planning for mines, with regular updating of closure plans. Though not mandatory, Quebec encourages backfilling of open pit mines by requiring a feasibility study.[513] Five years of groundwater monitoring is usually required,[514] although a guidance document states that a minimum of 20 years of monitoring is necessary for certain mine tailings.[515]

Reclamation plans are required under the contaminated soil provisions in the Quebec *Environment Quality Act* (Quebec EQA).[516] A soil characterization study must be filed when metal mining activities cease or incur changes in the use of land.[517] The study must be certified by a qualified professional under the Quebec EQA.[518] If the study reveals the presence of contaminants in a concentration exceeding the regulatory limits, the proponent must submit a request for the approval of a land rehabilitation plan outlining steps that will be taken to protect environment quality and avoid harm to human health, ecosystems or species.[519] A notice of contamination must also be entered in the land register.[520]

Security in Quebec

Financial security is required for 100 percent of the estimated rehabilitation costs of the entire mine site.[521] Security must be paid in three instalments in the 2 years following the date on which the plan is approved,[522] in specified forms meant to provide bond security.[523] This approach means Quebec is IRMA Standard-compliant with respect to the liquidity requirements for financial assurance, as self-bonding and corporate guarantees are not accepted. The Minister of Natural Resources can increase the amount as deemed necessary and can require total payment of the guarantee if the mining company's financial situation declines.[524]

YUKON

Reclamation and Closure in Yukon

Yukon mining projects usually require both quartz mining licences and water licences, and reclamation is generally addressed through both.[525] Each licence may impose additional requirements for reclamation.[526] While the Yukon *Quartz Mining Act* (Yukon QMA) provides for the development of regulations governing reclamation and closure plans,[527] the Yukon Department of Energy, Mines and Resources has opted instead to implement reclamation requirements through the Yukon Mine Site Reclamation and Closure Policy, and to include terms for reclamation on a project-specific basis through licensing conditions, rather than through regulations.[528] The Yukon Mine Site Reclamation and Closure Policy sets out requirements which must be in place before the mine can proceed.[529] Under

509 Quebec *Mining Act*, s. 232.3.
510 Quebec *Mining Act*, s. 232.6(2).
511 Quebec *Mining Act*, s. 101.
512 Quebec *Mining Act,* s. 232.10.
513 Quebec *Mining Act*, s 232.3.
514 Quebec Land Protection Regulation, s. 7.
515 Quebec Directive 019, 2012, p. 40.
516 Quebec *Mining Act*, s. 232.12.
517 Quebec Land Protection Regulation, Schedule III; Quebec Mine Closure Guidelines, p. 14.
518 Quebec EQA, s. 31.65.
519 Quebec EQA, s. 31.51; Quebec Land Protection Regulation; Quebec Mine Closure Guidelines, p. 23.
520 Quebec Land Protection Regulation, s. 31.58; Quebec Mine Closure Guidelines, p. 14.
521 Quebec *Mining Act*, s. 232. 4. This includes (1) the rehabilitation and restoration of accumulation areas; (2) geotechnical soil stabilization; (3) the securing of openings and surface pillars; (4) water treatment; and, (5) road-related work.
522 Quebec Regulation Respecting Mineral Substances, s. 113.
523 Quebec Regulation Respecting Mineral Substances, s. 115.
524 Quebec *Mining Act*, s. 232.7.
525 Reclamation and Closure Guidance, p. 1; See also, Yukon Water Board Guide, p. 10: In submitting an application for a water licence, the application is expected to include a preliminary decommissioning and reclamation plan with detailed security calculations.
526 Yukon Hard Rock Guide, p. 24.
527 Reclamation and Closure Guidance, p. i.
528 Yukon *Quartz Mining Act*, s. 149(j).
529 Yukon Mine Site Reclamation and Closure Policy, p. 3-4.

this policy, the mine operator is expected to "seek the views of all relevant Yukon government departments, affected First Nations, local communities and stakeholders in developing the reclamation and closure plan.[530] These plans must be updated every 5 years, but should also be updated if triggered by, for instance, the expansion of the mine, identification of unforeseen hazards, etc.[531] An annual reclamation status report must also be provided.[532] Reclamation and closure plans must prepare for both temporary and permanent closures[533] and the policy is to be implemented through site-specific regulatory authorizations.[534]

The Yukon Mine Site Reclamation and Closure Policy is supported by detailed Financial and Technical Guidelines. These guidelines provide a list of objectives to be met including: physical stability, chemical stability, health and safety, ecological conditions and sustainability, land use, aesthetics, socio-economic expectations, long-term certainty, and financial considerations.[535] According to the Financial and Technical Guidelines, each submitted reclamation and closure plan must demonstrate how its key objectives will be achieved,[536] including consideration of water quality and watercourses, sediment and erosion, site contamination, tailings management and acid rock drainage, revegetation, and decommissioning heap leach pads.

During reclamation some cleanup activities may require permitting under the *Contaminated Sites Regulation*.[537] Dismantling and removal of approved non-hazardous solid waste must be done in accordance with the *Solid Waste Regulations*.[538]

However, there are no time requirements for reclamation, which is becoming a significant issue as the number of abandoned mines in the Yukon continues to increase and costs shift from the proponents to the public. For example, in 1998 the Faro lead-zinc mine was abandoned by its bankrupt owners. A decade later, remediation costs were estimated at $500 million. The remediation project is now scheduled to *begin* in 2022 – more than two decades after the mine was abandoned and likely at a greater cost due to inflation and other costs associated with environmental problems, such as acid rock drainage, that have increased over time.[539]

Security in Yukon

The Yukon Mine Site Reclamation and Closure Policy emphasizes that every mine operator "is required to fully fund the cost of reclamation and closure."[540] Considerations for mine reclamation and closure liability include:

- Third party contractor for reclamation and closure of physical disturbances plus reasonable contingencies for the uncertainties in the costs to conduct those tasks;
- Reasonable mitigative contingencies;
- Funds for monitoring and maintenance to support reclamation and closure work.[541]

However, the Yukon has broad discretion over the form and amount of security held pursuant to a mining licence, mine land use approval or water licence. The Policy provides that security is to be comprised of an initial payment, prior to commencement, as well as for periodic adjustments.[542] While the Policy states that "An assurance instrument should provide reasonable access to the full security at any time," [543] the Yukon QMA Security Regulation enables the Minister to accept "any other form of security approved by the Minister in accordance with the Act" and to review and amend the amount or form of the security based on a "request from a licensee or at the Minister's own discretion" following consideration of mandatory criteria.[544]

530 Yukon Mine Site Reclamation and Closure Policy, p. 5.
531 Yukon Mine Site Reclamation and Closure Policy, p. 11.
532 Yukon Mine Site Reclamation and Closure Policy, p. 11.
533 Yukon Reclamation and Closure Guidance, p. 3; Yukon Hard Rock Guide, p. 26.
534 Yukon Mine Site Reclamation and Closure Policy, p. 2.
535 "Site Contamination, Guideline #T-04," Yukon Energy, Mines and Resources, "Yukon Mine Site and Reclamation Closure Policy: Financial and Technical Guidelines" (September 2013) [Yukon Financial and Technical Guidelines].
536 Yukon Mine Site Reclamation and Closure Guidance, p. 4.
537 "Site Contamination, Guideline #T-04," Yukon Financial and Technical Guidelines.
538 "Water Retention & Sediment Control Structure, Guideline #T-01," Yukon Financial and Technical Guidelines.
539 Canadian Broadcasting Corporation, "Massive Faro mine clean-up will begin in 2022, two decades after closure" (June 27, 2017), available online: https://www.cbc.ca/news/canada/north/faro-mine-remediation-1.4179016
540 Yukon Mine Site Reclamation and Closure Policy, p. 4.
541 Yukon Mine Site Reclamation and Closure Policy, p. 6.
542 Yukon Mine Site Reclamation and Closure Policy, pp. 6-7.
543 Yukon Mine Site Reclamation and Closure Policy, p. 7.
544 Yukon QMA Security Regulation, http://www.yukonminingrecorder.ca/pdf/oic2007_077.pdf

The Yukon Mineral Resources Branch issues a closure certificate once satisfied that the mine is no longer operating and the owner has met all the conditions of the Quartz Mining Licence.[545] However, liability does not cease with the completion of reclamation activities. The Policy specifies that ongoing monitoring must demonstrate that the reclamation activities have been effective before liability is reduced or security is returned, although the Minister retains discretion to vary or amend the amounts that are held.

The Yukon regime is not IRMA Standard-compliant with respect to the liquidity requirements for financial assurance, as self-bonding and corporate guarantees are not acceptable.

NORTHWEST TERRITORIES

Reclamation and Closure in NWT

In the NWT, site remediation is ensured through comprehensive Closure and Reclamation Plans. For mining projects, such approvals are set periodically by the land and water boards over the life of the mining operations, and require further approvals in advance of final closure.[546] Closure and Reclamation Plans are required with all applications for any large mining operation and go through public hearings and regulatory review processes prior to approvals. The Plans become conditions of land use and water permits and other authorizations. Closure and Reclamation Plans are always public and are accessible online through the board registry. The land and water boards set the conditions, but enforcement is undertaken by federal and territorial inspectors.

Security in NWT

Land and water boards are empowered to determine the amount of security required pursuant to the *Waters Regulations*[547] and *Mackenzie Valley Land Use Regulations*[548] and are required to set an amount sufficient to cover the costs which may arise from: (1) abandonment of the undertaking; (2) restoration of the site of the undertaking; and, (3) any ongoing measures that may be necessary after the abandonment of the undertaking. The total amount of security is then divided between "land" and "water" and fixed as a condition of land use permits and water licences.

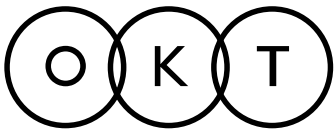
However, the form of security is set by the landowner, e.g., Government of the Northwest Territories (GNWT), federal government or Indigenous government, as applicable. The amount of security shall be divided between "land" and "water." Here, the GNWT has typically exercised significant discretion to enable proponents to self-assure. Accordingly, the NWT regime is not IRMA Standard-compliant with respect to the liquidity requirements for financial assurance, as self-bonding and corporate guarantees are not acceptable.

545 Yukon QMA, s. 134 (1) (Class 1 & 2); s. 134 (2) (Class 3 & 4); s. 137.

546 MVLWB/AANDC, "Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories," November 2013. Available online: https://glwb.com/sites/default/files/documents/wg/WLWB_5363_Guidelines_Closure_Reclamation_WR.pdf

547 Regulations under the NWT Waters Act, s. 11(1).

548 *Mackenzie Valley Land Use Regulations,* s. 32(1).



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