ENVIRONMENTAL LAW CENTRE

REMINING FOR BC'S ENERGY FUTURE

Opportunities, Risks, and the Need for Strong Legal Oversight

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REMINING FOR BC'S ENERGY FUTURE:

OPPORTUNITIES, RISKS, AND THE NEED FOR STRONG LEGAL OVERSIGHT

Prepared for:

BC Mining Law Reform Network

Prepared by:

Patricia Weber, Supervising Lawyer
Shannon Otruba, Lawyer
Ashley Wehrhahn, Articled Student
Miles Wilkinson, ELC Clinic Student

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EXECUTIVE SUMMARY

This report examines the legal framework governing remining activities in British Columbia ("BC"). We use the term *remining* to refer to the extraction of minerals from previously mined sites, including mine tailings and waste rock storage facilities.[1] These activities may occur as secondary operations at active mines, or they may occur at abandoned, orphaned, or non-working mine sites. According to some experts, the most promising sources for potential remining areas include the "pre-processed" tailings ponds associated with existing and abandoned metal mines.[2]

Mine wastes from orphaned and abandoned and closed mine sites are on-going environmental legacies that negatively impact communities, land use and watersheds. A potential benefit to remining tailings, waste rock or other waste material is that—with the right regulations in place—it could lead to better clean-up and closure of mine sites throughout the province.

Our goal in this report is to clarify the current legal and regulatory landscape for remining and propose pathways toward a modernized, sustainable remining regime that aligns with BC's environmental, economic, and reconciliation commitments. We do not aim to provide an exhaustive account of all relevant legal issues. Rather, we seek to contribute to the discussion around remining as a potential new source of critical minerals and to identify areas that warrant further consideration if BC intends to pursue a greener energy economy.

In Part 1, we begin by defining remining, outlining its relevance to securing critical minerals and describing its potential benefits, including pollution reduction and waste reprocessing. As a recent report from Earthworks illustrates, remining can advance circular-economy objectives by recovering residual minerals from existing waste streams, improving land reclamation prospects, and reducing the demand for new extraction. All of these effects have the potential to lessen the environmental effects of mining and are considerably more sustainable than opening a new mine. It appears that this spirit is reflected in one company's partnership with the Upper Similkameen Indian Band and the Province of BC (the "Province") to remining and reclaiming legacy mine sites around their

[1] Ann S. Maest, "Remining for Renewable Energy Metals: A Review of Characterization Needs, Resource Estimates and Potential Environmental Effects" (18 November 2023) 13(11):1454 *Minerals*, online: <https://www.mdpi.com/2075-163X/13/11/1454> at 1 [Maest 2023]; Robert Baker, "Remining Fact Sheet" (2016), online(pdf): <https://ceg.osu.edu/media/document/2021-09-09/remining_overview_fact_sheet_rev_10.2016.pdf> [Baker 2016].
[2] *Ibid,* Maest 2023.

traditional territories.[3] However, the Earthworks report also underscores that unregulated or poorly regulated remining can expose communities and ecosystems to significant risks, including tailings pond breaches and other forms of contamination.[4] These harms are often born disproportionally by Indigenous Nations, whose traditional territories are the sites of many existing and historic mine sites.[5] Thus, in the first section of this report, we define remining and explain its importance but also highlight the ways in which unregulated or inadequately regulated remining has been shown to carry serious risks.

In Part 2, we look at the current laws that could apply to remining in BC. Although we find that presently no provincial laws explicitly detail how remining would be governed, there are several laws that effect a party's desire to remine, especially in an abandoned or non-operating mine. Part 2 sets out how current mining laws, including the *Mines Act*, *Environmental Management Act*, and the *Environmental Assessment Act* might be engaged for future remining projects. We conclude that large-scale remining projects would likely trigger existing permitting and possibly assessment processes. However, there is currently a lack of legal clarity in these laws and thus uncertainty about the regulatory treatment of these potential projects. This is concerning because while remining may present environmental benefits and may advance circular-economy goals by reducing the long-term risks and liabilities associated with large tailings impoundments, it remains an extractive activity that can pose serious environmental hazards.

In Part 3, we identify key areas where legal and policy reform are needed to ensure that remining in BC proceeds responsibly and sustainably. The Province currently lacks a statutory definition of remining, creating uncertainty about when permitting, reclamation, and assessment obligations apply. We recommend establishing a clear legal definition, mandating environmental assessments in certain situations, and formalizing requirements for early and substantive Indigenous consultation or consent in line with reconciliation commitments. We further highlight the need to clarify liability, financial security, and reclamation responsibilities to address the distinct environmental risks posed by remining, as well as to introduce a mandatory, centralized inventory and reporting system for tailings contents to improve oversight and transparency. Collectively, these reforms would fill significant regulatory gaps and are also essential if remining is to credibly support a circular economy that protects ecosystems, upholds Indigenous rights, and avoids the creation of environmental liabilities.

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[3] Regeneration "Thank you to the Upper Similkameen Indian Band…" LinkedIn (23 Jun 2025) LinkedIn, online: *LinkedIn* <https://www.linkedin.com/posts/regeneration-enterprises_regeneration-resolve-criticalminerals-activity-7334273815075516416-aGc2>.

[4] Earthworks, *Safety First: Guidelines For Responsible Tailings Management* (May 2022) online(pdf): <https://earthworks.org/wp-content/uploads/2022/05/Safety-First-Safe-Tailings-Management-V2.0-final.pdf>

[5] *Ibid.*

In the Appendix, we provide a brief survey of the laws for remining in the United States and the European Union. As will be discussed, some of the recommendations that we make in Part 3 are informed by the recommendations that activists advocate for in the United States and laws that have already been implemented in the European Union.

In summary, remining offers both opportunities and risks for BC. If approached through a circular-economy lens, remining may provide pathways for reducing mine waste, improving resource efficiency, and decreasing reliance on new extraction. However, these potential benefits can only be realized through a strong legal framework that safeguards environmental and Indigenous rights. Therefore, we urge the development of a clear and precautionary legal framework that defines remining in law, ensures rigorous environmental assessment, and embeds meaningful Indigenous participation. With thoughtful reform, BC can advance responsible remining practices that align with its environmental, economic, and reconciliation commitments.

INTRODUCTION

1. WHAT IS REMINING AND WHY DOES IT MATTER?

Remining refers to the extraction of minerals, particularly critical minerals, from mine waste such as tailings and waste rock. It can occur at both operating and non-operating mine sites, including abandoned, orphaned, or non-producing sites.[6] Within active mines, remining is typically a secondary process where operators or new proponents rework waste materials to recover additional minerals.[7] Experts identify pre-processed tailings ponds at existing or abandoned mine sites as among the promising sources for recovering critical minerals.[8]

Remining is especially relevant in BC as there are numerous abandoned and orphaned mines that could potentially be remined.[9] These abandoned sites not only pose environmental and safety concerns but also represent significant untapped sources of critical minerals. From a circular-economy perspective, these sites also represent opportunities to recover value.

Remining offers a strategic alternative to opening new mines in order to secure critical minerals. Rare earth elements and critical minerals are often present in mine tailings, with discarded and abandoned mine tailings being something that BC already has in significant quantities.[10] As University of Delaware professor Julie Michelle Klinger argues in the context of the United States, the prevailing narrative of Chinese 'stranglehold' over rare earths exaggerates scarcity and obscures the fact that substantial domestic sources exist 'hiding in plain sight' in mining waste and other secondary sources. Hence, rather than pursuing costly and environmentally risky new mining projects, policymakers could prioritize recovery from these existing waste streams. Klinger argues that given China's dominance in rare-earth processing and the strategic importance of these materials for renewable energy, advanced manufacturing, and defense technologies, investing in

[6] Baker 2016, *supra* note 1.
[7] Maest 2023, *supra* note 1 at 1.
[8] *Ibid.*
[9] British Columbia Mining Law Reform, "Closure, Reclamation and Abandoned Mines," (May 2019), online(pdf): <https://reformbcmining.ca/wp-content/uploads/2019/05/BCMLR-Closure-Reclamation-Abandoned-Mines.pdf>.
[10] Daniel F. Runde & Austin Hardman, "Elevating the Role of Critical Minerals for Development and Security" (1 September 2023), online: <https://www.csis.org/analysis/elevating-role-critical-minerals-development-and-security>.

remining and recycling capacity represents a pragmatic policy pathway to reduce U.S. import dependence while strengthening domestic supply chains.[11]

Both industry actors[12] and environmental NGOs[13] have studied remining and concluded that remining offers a cheaper, easier, and more sustainable means of securing certain critical minerals. Recovering minerals from already disturbed and previously processed materials can significantly reduce the incremental energy use, water consumption, land disturbance, and greenhouse gas emissions associated with developing new mineral deposits. In addition, remining can serve a remediation function by stabilizing or removing legacy mine waste that continues to pose environmental risks.

Practical examples of these benefits can be seen in projects undertaken by the company Regeneration, which is looking to expand efforts into BC. Regeneration has remined mine waste sites and then remediated those sites in the Yukon and Alaska, thereby using remining to also remediate waterways and restore salmon runs.[14] In BC, Regeneration has reportedly made a deal with the Upper Similkameen Indian Band and the Province to remine historic mine waste at the Hedley Mariposa Flats sites in Southern BC. If implemented as described, this project would combine critical mineral recovery with environmental reclamation on lands affected by historic mining, aligning with provincial objectives related to reconciliation, responsible resource development, and the transition toward a circular economy.[15]

These efforts are encouraging, because remining offers multiple benefits, including enabling the recovery of critical resources that would otherwise be too costly to extract at scale, fostering circularity within the mining sector. This approach holds significant potential for BC, where a substantial number of closed, abandoned, or derelict mines exist. A 2021 map produced by SkeenaWild Conservation Trust and the BC Mining Law Reform network highlighted over 170 known and potentially contaminated mine waste sites across the province, including 84 closed or abandoned mines and 17 mines in the 'care and maintenance phase' (which are not currently operating, with legal status

[11] Julie Michelle Klinger, "Opinion: America's Rare-Earths Solution is Hiding in Plain Sight" *The New York Times* (6 February 2026), online: <https://www.nytimes.com/2026/02/06/opinion/china-us-rare-earths.html>. For a less recent but similar argument in the Canadian context, see: Andrew Kerr, "Critical Minerals in the Context of Canada: Concepts, Challenges and Contradictions" (2023) 50(3) *Geoscience Canada* at 93.
[12] NEMO, "5 Lessons Learned from the Event 'Recycling Mining Waste, a New Business'" (4 May 2021) online: <https://h2020-nemo.eu/5-lessons-learned-from-nemos-event-on-remining-extractive-waste-april-2021/>.
[13] Maest 2023, *supra* note 1.
[14] Canadian Minerals and Metals Plan Secretariat & Mines Intergovernmental Working Group, Task Team on Environment, *What We Heard Report: Public Event — 3rd Annual Orphaned and Abandoned Mines Workshop* (5 November 2025).
[15] *Ibid.*

discussed below).[16] Both the Canadian and United States governments have recognized mine waste as a valuable source for critical minerals and rare earth elements, further highlighting the untapped opportunity within BC's mine sites.[17] Further, Geoscience BC commissioned a geoscience consulting firm to map out the critical minerals and metals in BC mine tailings and waste rock.[18] In this phase, they found more than 500 current and legacy mine sites with potential for critical minerals.[19] If the Province were to update its laws and regulations around remining, it could not only incentivize the extraction of critical minerals from these sites but also mandate the proper closure and reclamation of the areas once extraction is completed. This would allow BC to meet the global demand for essential minerals while driving the cleanup and environmental reclamation of abandoned mine sites across the province, and reducing the number of new mines needed.

However, we must also consider the risks associated with remining. These risks include reactivating pollution from mine wastes, particularly those containing radioactive ("nuclear") elements or magnesium from asbestos tailings, both of which pose significant health hazards.[20] Remining activities can also heighten the risk of tailings dam failure during material rehandling and may generate substantially more waste once operations conclude.[21]

Remining projects must also respect the authority of Indigenous Nations and require their full participation and free, prior and informed consent.[22] Many Indigenous Nations whose

[16] BC Mining Law Reform, News Release, "New Map Shows Dozens of Mine Pollution Threats in B.C." (19 January 2021) online: <https://reformbcmining.ca/news/2021/01/new-map-shows-dozens-of-mine-pollution-threats-in-bc/>.
[17] Natural Resources Canada, "Mining value from waste: a potential game changer" (May 2019) online: <https://natural-resources.canada.ca/stories/simply-science/mining-value-waste-potential-game-changer>; Government of Canada, *The Canadian Critical Minerals Strategy* (Natural Resources Canada, 2022) online: <https://www.canada.ca/content/dam/nrcan-rncan/site/critical-minerals/Critical-minerals-strategyDec09.pdf>; Department of the Interior, News Release, "Department of the Interior Launches Effort to Unlock Critical Minerals from Mine Waste" (24 July 2025) online: <https://www.doi.gov/pressreleases/department-interior-launches-effort-unlock-critical-minerals-mine-waste>.
[18] Barlow, Nicole and Barlow, James. Purple Rock Inc. Geoscience BC Report 2025-03. "Critical Minerals and Metals in BC Mine Tailings and Waste Rock." Accessed at: <https://cdn.geosciencebc.com/project_data/GBCReport2022-005/Geoscience%20BC%20Report%202025-03%20Critical%20Minerals%20and%20Metals%20in%20BC%20Mine%20Tailings%20and%20Waste%20Rock.pdf>.
[19] Ibid. p1.
[20] Maest, *supra* note 1 at 2.2.2, 5.1.1, 5.1.3; See also O. Jacques & R. Pienitz, "Asbestos mining waste impacts on the sedimentological evolution of the Becancour chain of lakes, southern Quebec (Canada)" (10 February 2022) *Science of the Total Environment* 807:3.
[21] A. Maest, "Executive Summary of Extracting energy transition metals from remining sources: A review of characterization and processing approaches, resource estimates, and potential environmental effects" (January 2024), online(pdf): <https://earthworks.org/wp-content/uploads/2024/01/Remining-Executive-Summary-January-2024.docx.pdf> at 5.
[22] Ann S. Maest, "Executive Summary of Extracting energy transition metals from remining sources: A review of

traditional territories contain tailing ponds and legacy mine sites continue to bear the disproportionate burdens of mining. As a result, remining in BC will require careful regulatory oversight to ensure that environmental benefits are realized without transferring legacy risks or undermining existing legal protections through environmental contamination, adverse health impacts, and loss of land.[23] Recent international examples illustrate how these risks can manifest when remining operations are poorly regulated or monitored. At the same time, there are also emerging examples in BC and the Yukon where Indigenous governments are partnering with Regeneration (a social enterprise)[24] to remine abandoned mine sites that had on-going groundwater contamination and pollution concerns, as previously mentioned.[25]

Globally, poorly regulated remining projects have produced mixed outcomes. For example, a remined tailings dam collapsed at a closed diamond mine in South Africa.[26] The collapse happened after prior community warnings about safety and authorities had ordered the company to stop the disposal of waste water at the site.[27] The flood of mine waste killed three people, injured 40, and damaged nearby property.[28] Local activists blamed the collapse on the Department of Mineral Resources and Energy's failure to effectively monitor and regulate the remining operation.[29] A second remining failure occurred in Bolivia on March 16, 2025, when a company remined a tailings dam of a closed tin mine. The remining activity cause the tailings dam to collapse, resulting in a disaster that killed two people and destroyed 47 houses.[30] Such incidents underscore the potential hazards of remining when regulatory frameworks fail to address legacy contamination, structural integrity, and ongoing environmental management. These examples also illustrate Earthworks' broader warning that circular-economy opportunities will only be realized if tailings are safely managed. Otherwise, remining can reinforce rather than reduce the long-term risks associated with historic waste.

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characterization and processing approaches, resource estimates, and potential environmental effects" (January 2024), online(pdf): <https://www.transportenvironment.org/uploads/files/2023_09_Earthjustice_Remining_Exec_Sum_Final.pdf> at 5.

[23] B. Docherty, "Viewing Mining's Effects on First Nations Through the Lens of Aboriginal Rights" (30 October 2011) West Coast Environmental Law, online: <https://www.wcel.org/blog/viewing-minings-effects-first-nations-through-lens-aboriginal-rights>.

[24] Regeneration Enterprises, online: <https://www.regeneration.enterprises>.

[25] <https://www.cbc.ca/news/canada/north/mejuri-recovered-yukon-mine-metals-jewelry-9.6935814>.

[26] MiningWatch Canada, "South Africa Tailings Tragedy Shows Ned for Stronger Regulations and Effective Enforcement" (12 September 2022), online: <https://miningwatch.ca/news/2022/9/12/south-africa-tailings-tragedy-shows-need-stronger-regulation-and-effective> [South Africa 2022 Remining Failure].

[27] *Ibid.*

[28] *Ibid.*

[29] *Ibid.*

[30] Dave Petley, "Breaking news: a major tailings landslide at Andavilque in Bolivia" (18 March 2025), online: <https://eos.org/thelandslideblog/andavilque-1>.

While the rate of tailings dam failures is increasing in frequency and severity globally,[31] this raises a critical question for BC: How can remining proceed safely and responsibly within the Province's existing legal and regulatory framework? To evaluate this question, the following section reviews BC's statutory regime governing mining and environmental management, identifying the legal mechanisms available for authorizing remining and assessing whether they adequately mitigate the risks associated with such activities. Addressing these regulatory gaps is essential if remining is to meaningfully contribute to circular-economy goals, such as reducing the province's cumulative environmental footprint and avoiding future tailings liabilities, while fully respecting Indigenous rights.

[31] Lindsay Bowker & David Chambers, "The Risk, Public Liability, & Economics of Tailings Storage Facility Failures (21 July 2015), online(pdf): <https://earthworks.org/assets/uploads/2018/12/44-Bowker-Chambers.-2015.-Risk-Public-Liability-Economics-of-Tailings-Storage-Facility-Failures.pdf>; Jan Morrill, "A String of Tailings Dam Failures Shows the Urgency of Putting Safety First" (31 March 2025), online: <https://earthworks.org/blog/a-string-of-tailings-dam-failures-shows-the-urgency-of-putting-safety-first/> [Morrill 2025 Tailing Dam Failures and Public Safety]; South Africa 2022 Remining Failure, *supra* at note 15.

2. SUMMARY OF LAWS POTENTIALLY GOVERNING REMINING IN BC

At present, no provincial laws or regulations explicitly define or even mention “remining.” However, a company currently seeking to undertake remining would need to navigate the existing permitting and environmental oversight mechanisms as found in the *Mines Act* (the “*Act*”), the *Mineral Tenure Act* (“MTA”), the *Environmental Assessment Act* (“EAA”), and the *Environmental Management Act* (“EMA”), among others.[32] These governance structures are described in this section.

I. *MINES ACT*

In BC, mining is largely governed under the *Mines Act*, while the MTA sets out the process for initial mineral exploration.[33] The *Act* regulates the full lifecycle of mining operations, from initial development through to closure and reclamation, and provides the legislative framework for managing the technical, environmental, and administrative aspects.[34] Although the *Act* does not currently define or explicitly regulate "remining," it does state that before starting “any work in, on or about a mine,” a proponent must acquire a permit from the Chief Permitting Officer (the “CPO”).[35] Thus, the *Act*’s broad language and regulatory scope make it the principal mechanism through which remining activities are currently permitted, monitored, and enforced.

A. Scope and Application of the *Mines Act*

The *Act* has a broad scope and applies to all mining operations. It has authority over the process by which a party can apply for a permit to extract minerals,[36] how a party can operate a mine,[37] the process by which the Province can enact additional mining regulations,[38] and the penalties for mines that violate provincial standards.[39] The *Act* defines a "mine" expansively to include not only sites engaged in mineral exploration or extraction, but also lands used for the processing of minerals, storage of tailings, or

[32] *Mines Act*, RSBC 1996 c 293 [*Mines Act*]; *Mineral Tenure Act*, RSBC 1996 c 292 [*Mineral Tenure Act*]; *Environmental Assessment Act*, RSBC 2018 c 51; *Environmental Management Act*, SBC 2003, c 53 [EMA].
[33] *Mineral Tenure Act*, *supra* note 22.
[34] *Mines Act*, *supra* note 22 at s 1.
[35] *Ibid*, s 10(1).
[36] *Ibid,* ss 10-11.
[37] *Ibid,* ss 18-32.
[38] *Ibid,* s 38.
[39] *Ibid,* ss 36.1-37.

disposal of waste.[40] This broad definition ensures that remining projects, whether they involve reworking historical tailings facilities or restarting operations at a closed site, would likely fall within the regulatory reach of the *Act*.

Additionally, s. 10 of the *Act* grants the CPO the authority to determine whether an activity qualifies as "mining" and, therefore, requires a permit.[41] This discretionary power allows for the Minister to treat remining proposals as subject to all the obligations of conventional mining projects.[42] The *Act* specifies that the CPO can grant permits for activities related to a mine that can include environmental protection and reclamation planning.[43] Accordingly, there appears to be a legal basis for the CPO to permit or amend an existing permit for remining activities in a currently operating mine.

B: Permitting Under the *Mines Act*

A permit under the *Act* is mandatory for any "work in, on or about a mine," encompassing both initial development and any subsequent activities requiring amendments to the original permit.[44] Permit applications must include detailed technical, environmental, and procedural information, including reclamation and closing plans.[45] Under the *Act*, permitting is highly flexible, and the Lieutenant Governor in Council may amend the permitting process as needed or exempt individuals or classes of persons from it altogether.[46] The *Act* also authorizes the Minister and the CPO to amend or alter specific permits as necessary.[47] Under s. 38, the Lieutenant Governor in Council may further make regulations on a range of matters, including permitting.[48]

Legal mechanisms for changing permits exist but are limited in scope. If a mine owner or operator seeks to amend permit conditions, they can apply to the CPO, and the CPO "may revise the conditions or extend the term."[49] Similarly, either the Minister or the CPO may also "impose additional conditions or changes in the existing conditions [of a permit] … with or without an application."[50] This broad discretion allows the Minister or CPO to

[40] *Ibid,* s 1.
[41] *Ibid*, s 10.
[42] *Ibid,* s 10(2.01)(d).
[43] *Ibid*.
[44] *Ibid,* s 10(1).
[45] *Ibid*.
[46] This can be done through regulation or in writing on a case-by-case basis. See *Mines Act*, at ss 10(1.1)-10(7).
[47] *Ibid* at s 10(1.1-1.2).
[48] *Ibid*, s 38.
[49] *Ibid*, s 10(6), 11.
[50] *Ibid*, s 10(7), 11.

respond to requests from the public or Indigenous Nations; however, the *Act* does not require them to do so.

C: Treatment of Closed and Dormant Mines

The *Act* establishes a legal framework that classifies mine sites as active, closed, or abandoned. There is also an informal category, which is when a non-operational mine goes into a care and maintenance phase. These classifications determine legal responsibility, environmental management obligations, and the conditions under which a mine may lawfully restart activities such as remining.

The *Act* and the *Health, Safety and Reclamation Code for Mines in British Columbia* (the "Code") work together to regulate these classifications.[51] Under the *Act*, the Code is the principal vehicle that outlines specific standards for mine operations, including workplace safety precautions, design and procedural standards, and details procedures regarding mine permitting, reclamation and closure.[52] Of particular relevance is the Code's provision on tailings storage facilities: If a tailings facility remains unused for 12 months, the Chief Inspector of Mines may declare it 'closed.' Once declared closed, the tailings facility may not be reused for any purpose until a new permit is issued.[53] This requirement indicates that tailings reprocessing or remining cannot proceed under outdated approvals and instead requires a new or amended permit.

Within this legal structure, mine sites fall into distinct operational categories. A closed mine is one where mining activities have stopped, but the owner, operator, or permittee remains responsible for complying with the *Act*, the Code, and all conditions in the mine's permit.[54] When a mine operator intends to close a mine, they must give written notice to an inspector and, within 90 days, submit accurate drawings of all mine facilities to the Chief Inspector.[55] While the closure process is underway, the mine operator must continue meeting permit conditions and implement a site monitoring and maintenance program.[56] Before the CPO can release the operator from liability, the operator must reclaim the land to an end use approved by the CPO that accounts for previous and potential uses.[57] The operator must also secure all openings, reclaim all dumps, stabilize

[51] Ministry of Energy, Mines and Low Carbon, *Health, Safety and Reclamation Code for Mines in British Columbia* (April 2024), online(pdf): <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/health-and-safety/code-review/minescode_april_2024_web.pdf> [*Code*].
[52] *Ibid.*
[53] *Ibid*, s 10.6.13.
[54] *Mines Act*, *supra* 22 at s 1.
[55] *Ibid*, s 10.8.
[56] *Ibid.*
[57] *Ibid*, ss 10.9.4-10.9.5.

land access roads and watercourses, and revegetate the site.[58] Only after completing these actions does the operator become eligible for release from obligations under the *Act,*[59] at which point any securities collected under the *Act* are returned.[60]

In contrast, legislation defines an abandoned mine as one where the operator has met all permit obligations and the mineral claims have reverted to the Crown. Once the CPO or Chief Inspector grants this status, regulatory oversight lessens, but the site remains subject to orders if public safety or environmental risks emerge.[61] Historically, there was minimal regulation to ensure proper closure and decommissioning of BC mines. In 2019, the Province created the Abandoned Mines Branch to reclaim past mine sites that pose potential risks to public safety or the environment (where no *Mines Act* permit exists or responsible person). The branch has identified over 2,500 sites and visited less than 5%.[62] In Section 17 of the *Act*, the Chief Inspector of Mines can mandate action at a closed or abandoned mine "in order to prevent danger to persons or property or to abate pollution of land and watercourses."[63] If a remining project seeks to remine a site with the aim to also reclaim an area, as Regeneration has committed to doing, then perhaps this section of the *Act* can be invoked to authorize remining projects on the premise that they will clean up closed or abandoned mine sites and thereby prevent future damage to the environment or persons.[64] Finally, the Guiding Principles of the Abandoned Mines Branch are in line with remining toward reclamation in partnership with First Nations, in a cost-effective manner.[65]

Between these two categories lies a third, informal classification: the care and maintenance phase. Although not defined in legislation and regulation, this term refers to mines that have paused operations but have not completed formal closure or reclamation.[66] During this phase, operators remain liable for their sites during this phase and must maintain facilities according to Code standards.[67] As mentioned, there are currently over a dozen such mines currently in this phase in BC.[68] If a mine remains

[58] *Ibid*, ss 10.9.7-10.9.8.
[59] *Ibid*, s 10.9.22.
[60] *Ibid*, ss 10.8.7-10.8.8.
[61] *Ibid,* s 1.
[62] Presentation by Bev Quist on November 5, 2025, at the 3rd Annual Orphaned and Abandoned Mines Workshop.
[63] Chief Inspector of Mines 2022/2023 Annual Report. Page 31. <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/reports/annual_report_of_the_chief_inspector_of_mines_2022-2023.pdf>.
[64] Canadian Minerals and Metals Plan Secretariat & Mines Intergovernmental Working Group, Task Team on Environment, *supra* note 14.
[65]Chief Inspector of Mines 2022/2023 Annual Report., *supra* note 63.
[66] Nikki Skuce, "A Refined Look at Critical Minerals in British Columbia," Northern Confluence Initiative (February 2025) online (pdf): <northernconfluence.ca/wp-content/uploads/2025/02/Refined-look-at-critical-minerals-BC.pdf> at 5.
[67] Nikki Skuce, "A Refined Look at Critical Minerals in British Columbia", Northern Confluence Initiative (February 2025) online (pdf): <northernconfluence.ca/wp-content/uploads/2025/02/Refined-look-at-critical-minerals-BC.pdf> at p 5.
[68] BC Mining Law Reform, *supra* note 16.

inactive for more than a year, the owner or operator must apply to amend the mine permit before resuming operations. Similarly, if a tailings facility sits unused for 12 months, the CPO may declare it closed, meaning it cannot be reactivated without a new permit, although it is unclear if this ever occurs given mines remain in care and maintenance for years in BC.[69]

Altogether, these provisions clarify how remining fits within the existing legal and regulatory structures. Based on the *Act* and the Code, a company that wishes to remine a tailings pond at a closed mine or one in the care and maintenance phase may do so if it obtains the necessary permits. The company must apply for a new mine permit or amend an existing one, depending on the scale and environmental impact of the proposed activities. If the company fails to seek the required amendment and the remining harms environmental values, threatens public safety, or violates existing permit conditions, the operator breaches the *Act.* In addition, if a potential operator wishes to remine in an abandoned or closed mine site with the promise to reclaim or restore the area after remining, it might be possible that the Chief Inspector can authorize the activity under Section 17 of the *Act.* Taken together, there are some avenues under which remining can occur for closed, abandoned or non-operating mine sites. These structures would benefit from greater clarity and transparency, as will be discussed in the recommendations below.

D. Closure, Reclamation, and Securities

Under the *Act*, mine operators are liable for the risks that stem from their mining operations. To prevent the costs of cleanup and environmental remediation from defaulting to the Province, mine operators are required to pay a security fee as part of the permitting process.[70] These funds can be used to conduct remediation, cleanup, and repair work at the discretion of the Chief Inspector.[71] The exact amount required is determined based upon the mining activities proposed[72] and can be amended at the discretion of the CPO.[73] The Province holds these funds, which the CPO may use at their discretion to carry out environmental remediation, site monitoring, or reclamation work if the operator defaults.[74]

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[69] *Code*, *supra* note 41 at s 10.6.13.
[70] *Mines Act*, *supra* note 22 at s 12. See also Ministry of Energy, Mines, and Low Carbon Innovation, "Major Mines Reclamation Security Policy (Interim)" (2022) online(pdf): <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/reclamation-and-closure/major_mines_reclamation_security_policy_interim_v1_05apr2022.pdf> [Ministry of Energy 2022].
[71] *Mines Act*, *supra* note 22 at s 17.
[72] Ministry of Energy 2022, *supra* note 54.
[73] *Mines Act*, *supra* at note 22 at s 10.7.
[74] British Columbia, "Reclamation Securities for Mines in BC" (Last updated 19 August 2025) online: <https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/permitting/mine-reclamation-securities>.

This system of securities can be particularly relevant in the context of remining proposals. Where a mine that has been closed or placed in care and maintenance is proposed for reactivation or reprocessing of tailings, the environmental risks may change significantly. In such cases, the CPO has the authority to amend the amount of financial security required to reflect the scope and impact of the proposed remining activity. This could ensure that any new disturbances caused by remining, such as re-excavation of previously reclaimed areas or increased risks to watercourses, are financially accounted for. As we discuss further in Part 3, this could be an important safeguard that the Province can invoke when it permits remining activities.

II. *MINERAL TENURE ACT*

The MTA governs the acquisition, maintenance, and exercise of mineral rights on Crown land in BC.[75] The MTA defines the term "mineral" broadly to include "rock and other materials from mine tailings, dumps and previously mined deposits of minerals."[76] This definition indicates that tailings or previously mined materials, including those stored in tailings ponds, qualify as "minerals" under the MTA. As such, these materials fall within the scope of mineral title rights, meaning that they may, in principle, be subject to mineral claims or leases in the same way as unmined deposits.

The MTA also governs access and surface rights associated with mineral titles. It grants the recorded holder the right to use, enter, and occupy the surface of a claim or lease for mining purposes, subject to obtaining all necessary permits under the *Act.*[77] These rights apply exclusively to the recorded holder and do not automatically extend to other parties unless they have been granted authority through ownership, assignment, or contractual arrangement.[78] The MTA also requires holders to provide notice before commencing mining activities, including notice to surface owners.[79] Under current law, the MTA does not require notice to Indigenous Nations or mandate that the Province consult with Indigenous Nations prior to granting mineral titles; however, in the recent decision *Gitxaała v. British Columbia*, the BC Court of Appeal held that this omission triggers the Crown's duty to consult.[80] Now prospectors must apply for their claim and the Crown

[75] *Mineral Tenure Act*, *supra* note 22.
[76] *Ibid*, s 1.
[77] *Ibid*, s 14.
[78] *Ibid,* ss 6.34, 12.
[79] *Ibid,* s 19.
[80] *Gitxaala v. British Columbia (Chief Gold Commissioner)*, 2025 BCCA 430 (CanLII), para 5-7, <https://canlii.ca/t/kgvvb#par5>, retrieved on 2026-02-11.

consult and accommodate impacted First Nations.[81] Finally, it affirms that each mineral title is distinct and independently held.[82] Together, these provisions reinforce that only registered title holders, or those authorized by them, may lawfully access and extract minerals, including tailings, under the MTA framework.

In circumstances where mineral claims have reverted to the Crown, for example, at sites classified as "abandoned" under the *Act*, a new mineral tenure would be required before any remining activity could lawfully proceed. Under the MTA, when a claim or lease is forfeited, cancelled, or otherwise terminated, the rights to the minerals in that area revert to the Crown.[83] Once reverted, the minerals are no longer subject to private mineral title, and any person wishing to reinitiate extraction activities must first acquire a new mineral title through the registration process established under Part 2 of the *Act*.[84] Until a new title is recorded, no individual or company holds the legal right to enter upon, explore, or extract minerals from the area.[85] This ensures that the Crown retains control over the disposition of mineral rights and that any future remining or reclamation-related extraction occurs within the established regulatory framework and with appropriate oversight.

Under the MTA, the right to remine materials within existing tailings ponds depends primarily on who holds the underlying mineral title. Because the MTA defines "minerals" to include materials in tailings and previously mined deposits, these materials fall within the scope of existing mineral claims or leases. As a result, only the recorded holder of the mineral title, or a party authorized by them through assignment, may lawfully conduct remining activities in those tailings ponds. Third parties that do not hold title cannot independently access or extract materials from such sites without the consent or participation of the mineral tenure holder as the MTA grants exclusive rights of entry and extraction to the recorded holder. However, if a mineral claim has lapsed or reverted to the Crown, such as at an abandoned mine site, a third party may apply for a new mineral title over the area before seeking the necessary permits under the *Act*. In practice, this framework means that remining projects in active or care-and-maintenance sites require coordination with, or authorization from, the existing tenure holder, whereas remining at abandoned sites requires re-acquisition of mineral rights from the Crown before any lawful activity can proceed.

[81] Mineral Claims Consultation Framework (MCCF) in BC. Last updated May 14, 2025. <https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/mineral-claims-consultation-framework>.
[82] *Ibid,* s 12.
[83] *Ibid*, ss 32, 33, 34.
[84] *Ibid*, ss 8-12.
[85] *Ibid*, s 14.

III. INDIGENOUS AUTHORITY

Indigenous peoples in BC have governed their lands through traditional laws and systems long before the establishment of Canadian legal frameworks. These Indigenous laws governed the use, protection, and stewardship of natural resources, including land, water, and minerals. While colonialism attempted to undermine these systems, Indigenous governance remains central to how many communities manage their territories today, especially in the face of modern challenges like mining and resource extraction.

Section 35 of the *Constitution Act, 1982* recognizes and affirms the existing Aboriginal and treaty rights of Indigenous peoples, providing a constitutional safeguard for their rights, including those related to land and resource management[86] In key decisions like *Haida Nation v. British Columbia* ("*Haida*") and *Mikisew Cree First Nation v. Canada* ("*Mikisew Cree*"), the Supreme Court of Canada clarified that s. 35 imposes a duty on governments to consult with Indigenous Nations when their rights may be affected by actions such as resource development or mining activities.[87] These decisions emphasize that consultation must be meaningful and, in some cases, may require the consent of the affected Indigenous Nations. The *Haida* decision established that this duty to consult is triggered when a proposed action could infringe upon Indigenous rights,[88] while *Mikisew Cree* reinforced the obligation to consider the potential impact on treaty rights.[89] Consequently, mining projects on or near Indigenous lands require that governments and companies engage in a process of consultation and, when necessary, accommodation to address any adverse effects on Indigenous rights, including their right to control and manage their territories and resources.

Indigenous rights have also been increasingly recognized in international and domestic law. The *United Nations Declaration on the Rights of Indigenous Peoples* ("UNDRIP"), adopted by the United Nations General Assembly in 2007, affirms Indigenous peoples' rights to self-determination and to free, prior, and informed consent regarding activities that affect their lands, territories, and resources.[90] At the federal level, Canada enacted the *United Nations Declaration on the Rights of Indigenous Peoples Act*, which commits the federal government to take all necessary measures to ensure that Canadian laws are

[86] *Constitution Act, 1982,* being Schedule B to the *Canada Act 1982*, 1982 c 11 (UK), s 35.
[87] *Haida Nation v British Columbia (Minister of Forests)*, 2004 SCC 73 [*Haida Nation*]; *Mikisew Cree First Nation v Canada (Minister of Canadian Heritage)*, 2005 SCC 69 [*Mikisew Cree*].
[88] *Haida Nation*, *ibid* at paras 36-38.
[89] *Mikisew Cree*, *supra* note 69 at paras 55-56.
[90] *United Nations Declaration on the Rights of Indigenous Peoples,* 13 September 2007, A/RES/61/295.

consistent with UNDRIP and to prepare a national action plan developed in cooperation with Indigenous peoples.[91]

BC operationalized these principles through the *Declaration on the Rights of Indigenous Peoples Act* ("DRIPA").[92] Section 3 requires the Province, in consultation and cooperation with Indigenous people, to take all measures necessary to ensure that the laws of BC are consistent with the Declaration.[93] Sections 6 and 7 authorize the government to enter into reconciliation and decision-making agreements with Indigenous governing bodies, allowing for the joint exercise of statutory powers or, in some cases, requiring Indigenous consent before such powers are exercised.[94] These mechanisms embed UNDRIP's principles of consent and co-decision directly into BC laws, representing a marked evolution toward shared decision making and co-regulation.

Since DRIPA's enactment, the Province has taken steps to enter into s. 7 agreements with different Indigenous Nations, demonstrating the Province's evolving approach to co-governance. The Tahltan Central Government concluded two formal s. 7 consent-based decision-making agreements.[95] In addition, the Province entered into co-governance agreements outside of s.7 with other Indigenous Nations.[96] Of particular note, the Secwépemc Nation has engaged with the Province and regional authorities to develop agreements coordinating mining and mineral exploration within Secwépemc territory, representing a co-governance model of regulatory oversight.[97] In addition, the Tsilhqot'in Nation signed the Teẑtan Biny Agreement with the province and Taseko to ensure any

[91] *United Nations Declaration on the Rights of Indigenous Peoples Act*, SC 2021, c 14.
[92] *Declaration on the Rights of Indigenous Peoples Act*, SBC 2019, c 44 [*DRIPA*].
[93] *DRIPA*, *ibid* at s 3.
[94] *Ibid*, ss 6, 7.
[95] Tahltan Central Government has signed two section 7 agreements: for the Eskay Creek and the Red Chris mines, see Province of British Columbia, "Making Decisions Together – Sections 6 & 7 agreements" (7 October 2025) online: <https://www2.gov.bc.ca/gov/content/governments/indigenous-people/new-relationship/united-nations-declaration-on-the-rights-of-indigenous-peoples/making-decisions-together#6&7>.
[96] The Haida Nation has established collaborative arrangements through the *Kunst'aa Guu-Kunst'aayah Reconciliation Protocol* and the *Haida Gwaii Reconciliation Act*, supporting joint stewardship and decision-making over forests, protected areas, and other resources on Haida Gwaii, see Province of British Columbia, "Provincial Agreement on Haida Aboriginal Title" (19 February 2025) online: <https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations/first-nations-a-z-listing/haida-nation-council-of/haida-title-agreement>; Similarly, the *Blueberry River First Nations Implementation Agreement* provides for consent-based management of cumulative industrial impacts that were found to infringe treaty rights, see TDS Law, "Blueberry River First Nation and British Columbia Sign Implementation Agreement; A New Chapter in Resource Development" (31 March 2023) online: <https://www.tdslaw.com/resource/blueberry-river-first-nation-and-british-columbia-agreement/?pdf=14169>.
[97] Rob Huton, *CSRD – Secwepemc Relationship Agreement Planning: Phase I Final Report* (Columbia Shuswap Regional District, 11 September 2024), online(pdf): <https://pub-csrd.escribemeetings.com/filestream.ashx?DocumentId=38675>.

future mining activities in the region require the free, prior and informed consent of the Tsilhqot'in Nation.[98]

Collectively, DRIPA and other co-governance agreements reflect a significant evolution in BC's approach to Indigenous rights and resource management. Under the current legal framework, it is highly likely that any future remining project will need to engage directly with the Indigenous Nation on whose territory the project is located and whose rights it may affect.

IV. *ENVIRONMENTAL ASSESSMENT ACT (EAA)*

Under BC's EAA, major resource development projects, which may include certain remining activities, require an environmental assessment. Proponents must obtain an Environmental Assessment ("EA") certificate for operations such as constructing new tailings facilities, expanding or reactivating existing mines, or reprocessing waste with significant environmental effects.[99] Project designation as "reviewable" depends on thresholds established in the *Reviewable Projects Regulation*, which capture substantial disturbances to previously unaffected land.[100]

However, the EAA affords the Minister, the designated Responsible Minister, and the Environmental Assessment Office (the "EAO") broad discretion. They may tailor the review process by issuing exemptions, limiting the scope of assessments, or suspending reviews under specific circumstances, such as emergencies or overlapping inquiries.[101] This flexibility introduces ambiguity for remining proponents, as the need for a full environmental review may be bypassed or reduced at the Ministry's discretion.

The EAA mandates formal consent from Indigenous peoples for projects on certain treaty lands or modern treaty areas.[102] Elsewhere, Indigenous Nations may elect to participate in the EA process by notifying the Chief Executive Assessment Officer and may assume responsibility for aspects concerning the project's potential effects on their rights.[103] The process affords opportunities for Indigenous consent or dissent, facilitated dispute

[98] Teẑtan Biny Gagaghut'i (Teẑtan Biny Agreement) (June 2025), online: <https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/consulting-with-first-nations/agreements/teztan_biny_agreement.pdf>.
[99] *Environmental Assessment Act*, *supra* note 22.
[100] *Reviewable Projects Regulation*, BC Reg 243/2019.
[101] Province of British Columbia, "Acts, regulations and agreements" (Last modified 5 June 2025), online: <https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/environmental-assessments/environmental-assessment-process/act-regulations-agreements>.
[102] *Environmental Assessment Act*, *supra* note 22, s 7.
[103] *Ibid*, s 14.

resolution, and participation on Technical Advisory Committees.[104] Indigenous governments may also engage voluntarily when an Environmental Assessment Certificate ("EAC") is not required, and operators may elect to enter into separate agreements with Indigenous Nations that are enforceable for the duration of the mine.[105]

While the EAA does not explicitly address remining, its flexible framework means that the scale, location, and environmental or Indigenous impacts of remining proposals determine the need for a full EA. Projects involving extensive disturbance or legacy contamination will likely face more rigorous scrutiny, particularly with Indigenous participation. The Minister's authority to modify or exempt reviews underscores the importance of advocacy and Indigenous engagement in maintaining robust environmental oversight.

V. *INFRASTRUCTURE PROJECTS ACT*

The *Infrastructure Projects Act* ("IPA"), formerly known as Bill 15, received royal assent on May 29, 2025.[106] The IPA authorizes the Province to designate certain developments as either Category 1 (government-led) or Category 2 (designated as "provincially significant") projects. Once designated, a project can access several streamlining mechanisms, including prioritized permitting, delegated reliance on qualified professional certification instead of conventional approvals, and accelerated environmental assessment processes. However, the legislation does not establish clear criteria for determining which projects qualify for these designations. The definitions of "provincially significant" and the parameters for designation remain undefined and depend on future regulations, which the Province has not yet developed or released. It remains uncertain, though possible, that a remining project could qualify for approval under this statute, depending on the forthcoming regulations.[107]

[104] Environmental Assessment Office, *EAO User Guide Introduction to Environmental Assessment Under The Provincial Environmental Assessment Act (2018) Version 1.01,* (30 March 2020), online(pdf): <https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/environmental-assessments/guidance-documents/2018-act/eao_user_guide_v101.pdf> at 11.
[105] *Ibid.*
[106] *Infrastructure Projects Act*, SBC 2025, c 13.
[107] Province of British Columbia, "Engagement begins to support implementation of Infrastructure Projects Act" (10 July 2025), online: <https://news.gov.bc.ca/releases/2025INF0028-000656>.

VI. LIABILITY FOR CONTAMINATED SITES (*ENVIRONMENTAL MANAGEMENT ACT*)

Remining activities have the potential to significantly affect "responsible person" liability under the EMA. Under the EMA, the government may designate individuals or entities as "responsible persons" and hold them strictly liable for contaminated sites.[108] The EMA's broad and retrospective liability framework means that a remining operator who engages with legacy waste, tailings, or other contaminated materials risks being classified as having "caused or contributed" to contamination, even if the underlying pollution pre-dates their involvement. In practice, a new operator that disturbs or reprocesses historical tailings may re-mobilize contaminants, alter hydrogeological conditions, or generate new pathways of exposure, thereby creating a fresh basis for statutory liability under s. 45.[109]

Liability under the EMA is joint and several, so multiple responsible persons may each bear full responsibility for cleanup costs, regardless of their relative contributions to the contamination.[110] The *Canadian Environmental Protection Act* also specifies limited circumstances in which certain secured creditors can or cannot be held liable for remediation.[111]

This legal framework directly affects remining activities, particularly when they take place at sites with existing contamination. When a new operator conducts remining at a legacy site, especially one already designated as contaminated, they may become a responsible person under the EMA if their activities worsen or extend environmental harm. Such activities include disturbing tailings, reprocessing waste rock, or altering drainage systems. As clarified by the BC Court of Appeal in *Cordy Environmental Inc. v. Obsidian Energy Ltd*. ("*Cordy*"), operators who engage in reclaiming activities may face liability for contamination they did not originally cause, but only if their actions exacerbate or extend the environmental harm.[112] The *Cordy* decision also confirmed that only those with substantial operational control over a contaminated site can be held responsible for remediation, but not contractors who have no operational control over the site.[113] As a result, remining operators must be cautious of the broad scope of liability that can extend from both their own activities and their role in managing legacy contamination.

Because the current statutory regime does not distinguish between original mining and remining, proponents who engage in remining risk inheriting legacy liabilities through

[108] EMA, *supra* note 22, s 44(1).
[109] *Ibid*, ss 45 (1) (a) and (b).
[110] *Ibid*, s 47; see also *Canadian Environmental Protection Act, 1999*, SC 1999, c 33, s 287(c) [CEPA].
[111] CEPA, *ibid*, s 45(3).
[112] 2024 BCCA 226 at paras 42, 45, 49, 57 [*Cordy*].
[113] Cordy at para 60-1, 63.

their operational actions or corporate relationships. *Cordy*'s clarification that liability is linked to those with operational control narrows the scope of responsibility for contractors, but operators may still face substantial liability risks for their involvement in legacy sites. Contractors hired to assist with remining, however, may not be as exposed, unless their role contributes directly to contamination or they have operational control over the site.[114]

From a policy perspective, this framework creates a regime that can present high risk to parties wishing to engage in remining legacy mine sites. To better encourage that these sites are remined and later reclaimed, the Province needs to provide clarity around the liability associated with remining projects. In particular, the Province could consider implementing regulatory instruments, such as site-specific remediation orders, risk-based remediation plans, or ministerial indemnities, to clarify the extent to which remining activities trigger fresh liability. Without such measures, the current EMA regime may discourage remining of contaminated or abandoned sites, as operators could hesitate to engage in remining activities given the liability risks involved. At the same time, it is important for the Province to avoid assuming additional liability for mine sites where no identifiable "responsible persons" are found, as doing so could shift cleanup costs onto taxpayers.

[114] See *ibid* at paras 59-63.

3. LAW REFORM AND REGULATORY CHALLENGES

In the previous section, we provided a brief overview of laws that could potentially apply to remining projects in BC. While BC's existing legislative framework contains some tools to regulate remining, there is not a particular law or section of laws that deal specifically with addressing the complexities and risks associated with remining. These gaps also limit BC's ability to ensure that remining meaningfully contributes to a responsible circular economy, including reducing long-term tailings liabilities, recovering value from existing disturbances, and minimizing the need for new extraction.

In this part, we identify key areas where law and policy reform could address some of these gaps. The following observations are initial contributions to possible detailed reforms. They are intended to spur deeper reflection about how BC's governance of mining can be reframed to accommodate remining. As this is not an exhaustive list, further research is warranted.

1. **Defining Remining in Law:** There is no statutory definition of remining in the *Mines Act* or related legislation. A clear legal definition would help delineate the scope of regulatory oversight, clarify when and how remining activities trigger permitting, reclamation, and assessment obligations, and reduce uncertainty for operators and regulators alike. A statutory definition could also allow BC to explicitly recognize when remining is intended to advance circular-economy objectives, such as prioritizing resource recovery, reducing waste, and minimizing the ecological footprint of mining.
2. **Mandatory Environmental Assessments:** Currently, significant permit amendments or reactivation of closed mines may not automatically require updated environmental assessments under the EAA. Given the potential for cumulative impacts from tailings reprocessing or disturbance of legacy contamination, a requirement for renewed or tiered environmental assessments would help ensure thorough evaluation of environmental and social risks prior to approval. This also includes adding some reference or threshold to the *Reviewable Projects Regulation*. If a remining project requires significant permit amendments (under the *Mines Act*), there should also be a process that includes mandatory and meaningful public engagement, as well as studies on environmental impacts, reclamation plan reviews, health and safety assessments, and geotechnical reports.
3. **Indigenous Engagement and Consent:** Although BC has taken some steps to advance Indigenous rights in resource decision making, the engagement process for remining remains unclear. Formalized requirements for early, ongoing, and substantive Indigenous consultation or consent are critical to uphold reconciliation principles. In addition, many First Nations have legacy sites that they are eager to have reclaimed

and restored. Indigenous partnerships for remining these should be a default for proponents to proceed. Embedding Indigenous consent is also essential for ensuring that circular-economy approaches to remining do not reinforce inequitable distributions of risk and that the benefits of resource recovery align with Indigenous Nations' authority and sovereignty.

4. **Clarifying Liability and Reclamation Responsibilities:** While the EMA's broad "responsible person" provisions can extend liability to remining operators who exacerbate contamination, the absence of tailored rules leaves ambiguity regarding financial security requirements, closure obligations, and long-term environmental monitoring specific to remining scenarios. Clearer statutory provisions or regulatory guidance would help manage these risks and ensure funds are available for remediation, even if operators default or transfer ownership. These requirements are also critical for upholding circular-economy principles, ensuring that remining does not create new environmental risks or future cleanup obligations that undermine long-term resource sustainability.
5. **Develop pilot programs in BC that provide some liability certainty:** Given the legacy of hundreds of orphaned and abandoned mines, need to de-risk and reduce pollution at many of them, lack of budget for clean-up, and push for critical minerals, there is an incredible opportunity to develop a pilot program in BC where remining pays for reclamation. Establishing liability exemptions for priority projects that meet certain conditions (e.g. partnerships with Indigenous governments, contaminating sites that are historical or abandoned, are economically viable, and conditional to public engagement for permitting) could help incentivize remining for critical minerals. Lessons learned could feed into regulatory and policy guidance beyond the pilot program.

6. **Mandatory Inventory and Reporting of Tailings Contents:** Currently, there is no legal requirement in BC for mining companies to maintain a comprehensive, up-to-date inventory of the chemical and mineral composition of their tailings, nor is there a requirement to report this information to the government in a standardized format. As remining proposals often target valuable residual minerals in historical tailings, the absence of such data poses a barrier to proper environmental assessment, regulatory oversight, and public transparency. Legal reform could mandate that mining operators, going forward, conduct regular sampling and analysis of tailings facilities, submit reports to the Ministry of Mining and Critical Minerals, and require the Province to maintain a centralized, accessible registry of tailings contents. This would allow for more informed decision making on remining proposals, improve environmental risk management, and enhance accountability over the long-term management of tailings

storage sites. Such an inventory system would also support circular-economy planning by identifying where resource recovery is feasible, reducing the creation of new waste, and enhancing transparency and accountability over the long-term management of tailings storage sites. A similar mechanism is being advanced in the European Union, as will be discussed in the Appendix. This would also help ensure that the Geoscience BC study is kept up to date.

Regulatory and Legislative Gaps

- The *Mines Act* and related regulations do not provide specific procedures or standards tailored to the distinct environmental and operational challenges posed by remining, such as managing legacy tailings or the potential remobilization of contaminants.
- There is no formal mechanism enabling the public or Indigenous communities to initiate permit reviews or demand re-evaluations of proposed remining projects.
- The permit amendment process often lacks automatic triggers for comprehensive environmental reassessments, allowing significant changes in site operations, including the possibility of approving remining projects, to proceed with minimal scrutiny of cumulative or long-term environmental impacts.
- In 2019, the government established the Abandoned Mines Branch. It has a small staff, has managed to inventory and site visit fewer than 100 abandoned and historic mine sites, and carried out stewardship activities at eight tailings storage facilities.[115] This Branch could take the lead role in assessing the potential for remining to reclamation/restoration through its inventorying and site visit evaluations. In addition, by creating legislation or regulations that ensure proper reclamation at the end of such remining projects, the Province could implement a series of policy changes that would help reduce the number of derelict mine sites in British Columbia.

These gaps foster legal uncertainty for remining projects, particularly with the threat that remining projects could be advanced without adequate environmental safeguards or Indigenous consent. They also limit BC's ability to ensure that remining contributes to a responsible circular-economy pathway, rather than reinforcing the environmental harms and inequities associated with legacy mining.

[115] Chief Inspector of Mines Annual Report 2023-2024. Page 18, online(pdf): <https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/health-and-safety/ci-annual-reports/2023-24_cim-cpo_report_publish.pdf>.

CONCLUSION

To support the responsible development of remining opportunities, which would balance resource recovery with environmental protection and Indigenous rights, BC's legal framework requires targeted reforms. These should include clear statutory definitions, mandatory and tiered environmental assessments, strengthened Indigenous consultation and consent mechanisms, and explicit liability and reclamation requirements for remining. Enhanced transparency and public participation provisions are also critical. Through such reforms, remining can contribute positively to sustainable resource management while safeguarding environmental and social values.

APPENDIX

SUMMARY OF LAWS GOVERNING REMINING IN OTHER JURISDICTIONS

A. UNITED STATES

Remining and the Law

In the United States, federal law makes distinctions between hard rock (metal) and coal mining, and each is governed by its own regulatory framework. Hard rock mining on federal lands is governed by the *Mining Law*[116] and coal (along with oil and natural gas) by the *Mineral Leasing Act.*[117] Under the *Mining Law*, "locatable minerals" such as gold, silver, platinum, and copper on public lands are freely available.[118] Whoever discovers a mineral deposit and stakes a claim has the exclusive right to extract those materials. By contrast, under the *Mineral Leasing Act*, coal, oil, and natural gas are owned by the federal government, which sell mineral leases to private entities that typically pay 8-12.5% royalties to extract these commodities.[119] The United States has no laws that explicitly cover or promote remining, and remining is governed under the same regulatory framework as traditional mining. At present, the remining of coal is much better established than hard rock remining. The United States Environmental Protection Agency

[116] *General Mining Act of 1872*, 30 USC C22.
[117] *Mineral Leasing Act of 1920*, 30 USC C3A.
[118] The term "locatable minerals" refers to large and changing class of substances. To qualify as a "locatable mineral" and be governed by the *Mining Act,* a substance must meet three criteria: 1) the substance must be recognized as a mineral by industry experts; 2) it must not be subject to disposal under a different law (for example the *Mineral Leasing Act*); and 3) it must make the land more valuable for mining than for farming. Because of this flexible definition, it can be challenging to compile a complete list of substances governed by the *Mining Act.* See Bureau of Land Management, "About Mining and Minerals" (Last accessed 22 August 2025) online: <https://www.blm.gov/programs/energy-and-minerals/mining-and-minerals/about>.
[119] Earthworks, "The 1872 Mining Law: Enriching Foreign Companies at Taxpayer Expense for 150 years" (Last accessed 2 August 2025) online(pdf): <https://earthworks.org/assets/uploads/2019/03/FS_1872MiningLaw_EW-EJ-WORC_201903.pdf>.

(the "EPA") began circulating a list of best practices for coal remining in 2001.[120] However, the agency has yet to issue a similar manual for hard rock mining.[121]

Under the *National Environmental Policy Act*[122] ("NEPA"), federal agencies are required to examine the environmental effects of any major action that they take, including issuing permits. All mining on federal lands engages NEPA and requires an environmental assessment. The permitting process has been widely criticized by industry and environmental groups alike. Industry tends to find these regulations unnecessarily complicated and duplicative.[123] Meanwhile environmental groups have pointed to numerous gaps in the regulatory framework that lead to devastating effects on the environment.[124]

As with all aspects of American mining law, the laws surrounding liability and the reclamation of abandoned mines vary based upon the location of the mine and material being extracted. Under federal law, there are well established practices governing liability and reclamation for coal and other resources governed by the *Mineral Leasing Act*. The regulatory infrastructure surrounding the *Mining Law* is less robust, however, and there are limited structures in place to ensure that hard rock mining is conducted in an environmentally sustainable manner. In 1977, Congress passed the *Surface Mining Control and Reclamation Act* ("SMCRA"), which regulates the environmental effects of coal mining.[125] Title IV of the SMCRA created the Abandoned Mine Land Reclamation Program ("AML"). Through the AML program, the federal government assesses and places a fee on each ton of coal produced. This small fee is then used to support the Office of Surface Mining Reclamation and Enforcement to respond to emergencies stemming from

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[120] US Environmental Protection Agency, *Coal Remining – Best Management Practices Guidance Manual* (Washington: Office of Water, 2001) online(pdf): <https://www.epa.gov/sites/default/files/2014-08/documents/coal_remining_bmp_guidance_2001.pdf>.

[121] Earthworks, "Remining Policy Brief" (January 2024) online(pdf): <https://earthworks.org/wp-content/uploads/2024/01/Remining-Policy-Brief-January-2024.docx.pdf> [Earthworks Remining Policy Brief].

[122] *National Environmental Policy Act*, 42 USC 4321.

[123] Society for Mining, Metallurgy, and Exploration, "Improved Regulatory Coordination to Ensure Responsible Mining and Environmental Protection" (May 2022), online(pdf): <https://smenet.blob.core.windows.net/smecms/sme/media/smeazurestorage/about%20sme/technical%20briefings/gpacregulatorycoordinationfinal-05162022-(1).pdf>; SNL Metals and Mining, "Permitting, Economic Value and Mining in the United States" (June 19, 2015), online(pdf): <http://mineralsmakelife.org/assets/images/content/resources/SNL_Permitting_Delay_Report-Online.pdf>.

[124] See, for example, Earthworks, "Mining Industry Exploits Clean Water Act Loopholes" (8 September 2015), online(pdf): <https://earthworks.org/wp-content/uploads/2021/09/CWA_FS_Loopholes.pdf>.

[125] *The Surface Mining Control and Reclamation Act of 1977*, 91 Stat 445. On these regulations and programs, see: Office of Surface Mining Reclamation and Enforcement "Programs" (Last accessed 22 August 2025), online: <https://www.osmre.gov/programs>.

abandoned mines and also fund grants that support the cleanup of abandoned mine sites.[126]

In comparison to coal mining under the *Mineral Leasing Act*, there is less regulatory infrastructure in place to handle issues of liability stemming from abandoned hard rock mines. In 2022, as part of the *Infrastructure Investment and Jobs Act,*[127] Congress established the Abandoned Hardrock Mine Reclamation Program ("AHMR") and authorized spending of up to $3 billion to clean abandoned mines. However, the approved funds were never appropriated through the Act, and AHMR has instead been running on an annual budget of $5 million.[128] Unsurprisingly, this meager investment has made little impact on the vast number of abandoned mines that dot the American landscape.

According to some estimates, the Unites States has as many as 500,000 abandoned hard rock mines, and it would likely cost more than $54 billion to clean these mines.[129]

Over the past year, the federal government has taken steps to increase critical mineral supplies. In late March, the Trump administration issued Executive Order 1421[130] (the "Order") requiring the federal government to promote the production of the critical substances previously identified by the US government as critical minerals[131] as well as "uranium, copper, potash, gold, and any other element, compound or material as determined by the Chair of the National Energy Dominance Council (NEDC)."[132] The Order aims to streamline the permitting process for mining and remining operations. It requires "the head of each executive department and agency involved in mineral production… [to] provide… a list of all mineral production projects for which a plan of operations, a permit application, or other application for approval has been submitted to such an agency." The order requires these agencies to "identify priority projects that can be immediately approved or which permits can be immediately issued, and [mandates that the agencies] take all necessary or appropriate actions within [their] authority to expedite and issue the

[126] Initially, the SMCRA authorized the collection of fees for 15 years. Over time, congress has amended the SMCRA to allow the AML program to continue. The fees collected under this program have tended to decrease with each new authorization. For example, the fee collected between 1977 and 2007 was 35¢ per ton for surface mines, 15¢ per ton for underground mines, and 10¢ per ton for lignite mines. Now, as of the most recent reauthorization in 2021, these figures stand at 22.4¢ per ton for surface mines, 9.6¢ per ton for underground mines, and 6.4¢ per ton for lignite mines. Cumulatively, as of September 2022, the AML program had collected $12.01 billion and distributed 6.287 billion in grants. See Office of Surface Mining Reclamation and Enforcement, "Reclaiming Abandoned mine Lands" (Last accessed 22 August 2025), online: <https://www.osmre.gov/programs/reclaiming-abandoned-mine-lands>.
[127] US, HR 3684, *Infrastructure Investment and Jobs Act*, 117th Cong, 2021 (enacted).
[128] US Department of the Interior, "Abandoned Hardrock Mine Reclamation Program" (Last accessed 12 November 2025), online: <https://www.doi.gov/oepc/abandoned-hardrock-mine-reclamation-ahmr-program>.
[129] Oak Ridge National Laboratory, *Remining and Restoring Abandoned US Mining Sites: The Case for Materials Needed for Zero-Carbon Transition* (September 2022), online(pdf): <https://info.ornl.gov/sites/publications/Files/Pub182920.pdf> at 16.
[130] 90 FR 13673: Immediate Measures to Increase American Mineral Production [Executive Order 14241].
[131] 30 USC 1606: Mineral Security.
[132] Executive Order 14241, *supra* note 107 at s 2(a).

relevant permits or approvals."[133] The Order commands the Chair of the National Energy Dominance Council to "solicit industry feedback on regulatory bottlenecks and other recommended strategies for expediting domestic mineral production" and to "prepare and submit recommendations to the President for the Congress to clarify the treatment of waste rock, tailings, and mine waste disposal under the Mining Act of 1872."[134] However, Congress is under no obligation to follow through on these recommendations.

At the same time, the Order also seeks to facilitate the use of federal funds to increase access to critical minerals. It authorizes the Secretaries of Defense, Energy, and Agriculture and the Administrator of the Small Business Association to "provide loans, capital assistance, technical assistance, and working capital to domestic mineral production project sponsors."[135] Likewise, the Order requires the Secretary of Defense to "utilize the National Security Capital Forum to facilitate the introduction of entities to pair private capital with commercially viable domestic mineral production projects to the maximum possible extent."[136] The Order has been amended by a subsequent Order, which adds coal to the list of critical substances to be promoted by various executive agencies.[137]

Yet this Order does not completely address expert concerns regarding the practicality of remining in the United States. As in Canada, industry and academic experts on remining have labeled liability for past mining activities as a considerable barrier to remining in the United States.[138] The Order does not and cannot resolve this issue, which would likely require some form of legislative action. Likewise, environmental NGOs have consistently highlighted the dangers of remining by merely removing all protective barriers and simply greenlighting all mining and remining projects as Trump's executive orders seek to do.

Law Reform

Instead, Earthworks and other environmental organizations have thrown their support behind some proposed legislative changes that would more effectively promote remining. In general, these organizations seek to increase regulatory protections and strengthen the environmental assessment process. To this end, they have thrown their support behind

[133] *Ibid*, s 3.
[134] *Ibid*, ss 3-4.
[135] *Ibid*, s 5.
[136] *Ibid*, s 6.
[137] The White House, "Reinvigorating America's Beautiful Clean Coal Industry and Amending Executive Order 1421" (8 April 2025) online: <https://www.whitehouse.gov/presidential-actions/2025/04/reinvigorating-americas-beautiful-clean-coal-industry-and-amending-executive-order-14241/>.
[138] National Academies of Sciences, Engineering and Medicine, "Remining as a Domestic Critical Mineral Resource: Board on Earth Sciences and Resources Fall 2022 Meeting" (3 November 2022) online: <https://www.nationalacademies.org/event/11-03-2022/remining-as-a-domestic-critical-mineral-resource-board-on-earth-sciences-and-resources-fall-2022-meeting>.

the *Clean Energy Minerals Reform Act,*[139] which was put forward by Democratic lawmakers in 2022. The bill would, among other things, create a permanent royalty fund to support the AHMR program. It would also link remining to reclamation efforts and reduce costs for remining projects. Other proposed laws include the *A. Donald McEachin Environmental Justice for All Act,*[140] which would strengthen NEPA protections and the Indigenous consultation process. More than anything else, however, these organizations point to the need to reform or even replace the *Mining Law* and associated regulations, which "do not include adequate environmental standards, enforcement and oversight powers, financial guarantees, or royalties… [and] do not recognize Tribal sovereignty, nor clarify land managers' discretion to deny mines where they do not belong."[141] These reforms are championed by environmental NGOs and Democratic lawmakers, however, and consequently are unlikely to be adopted by the current Congress.

In recent years, some have proposed "good Samaritan laws" as a means of addressing lingering problems regarding liability and mine clean up. The *Good Samaritan Remediation of Abandoned Hardrock Mines Act*[142] ("GSRAHM") became law in late 2024 that enables qualified conservation organizations and state agencies to voluntarily take on the cleanup of abandoned mines in place of the absent mine operator through the Good Samaritan Program.[143] These organizations would be able to conduct remediation activities without assuming liability under the *Clean Water Act* and the *Comprehensive Environmental Response, Compensation, and Liability Act* ("CERLA").[144] However, GSRAHM would not shield the volunteer entity for other forms of liability. GSRAHM would also place significant limitations on the kinds of organizations that could participate in the program and there are only 15 permits.[145] The program supports cleanup operations, but not remining, and any party that caused or contributed to pollution would be barred. Finally,

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[139] US, Bill S 1742, *Clean Energy Minerals Reform Act of 2023*, 118th Cong, 2023 (enacted).
[140] US, Bill S 919, *A. Donald McEachin Environmental Justice for All Act*, 118th Cong, 2023 (enacted).
[141] Earthworks Remining Policy Brief, *supra* note 100 at 9-10.
[142] US, Bill S 2781, *Good Samaritan Remediation of Abandoned Hardrock Mines Act of 2024*, 118th Cong, 2024 (enacted).
[143] *The Good Samaritan Remediation of Abandoned Hardrock Mines Act*, Pub L No 118-155, S. 2781 (2024); For more information on the proposed law, see: Trout Unlimited, "The Good Samaritan Remediation of Abandoned Hardrock Mines Act" (Last accessed 22 August 2025), online(pdf): <https://www.heinrich.senate.gov/imo/media/doc/one_pager_good_samaritan_remediation_of_abandoned_hardrock_mines_act.pdf>.
[144] United States Environmental Protection Agency, "Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Federal Facilities" (Last updated 7 July 2025), online: <https://www.epa.gov/enforcement/comprehensive-environmental-response-compensation-and-liability-act-cercla-and-federal#:~:text=Policies%20and%20Guidance-,Summary,hazardous%20substances%20into%20the%20environment>.
[145] "Good Samaritan Remediation of Abandoned Hardrock Mines Program" (Last updated 7 November 2025), online: <https://www.epa.gov/cleanups/good-samaritan-remediation-abandoned-hardrock-mines-program#:~:text=The%20Act%20promotes%20the%20remediation,the%20terms%20of%20their%20permit>.

the program would apply only to abandoned mines. Any mines with an existing owner would be barred from the program.

B. EUROPEAN UNION

Law on Remining in the EU

Under EU law, raw materials are national assets. Accordingly, mineral resource management, permitting, and mining legislation fall under the jurisdiction of Member States, and the legal framework varies considerably from one jurisdiction to another.[146] However, there are several pieces of EU legislation that affect mining across the European Union, including the *Treaty on the Functioning of the European Union* (the "Treaty")[147] and various regulations and directives regarding safety and environmental protection. Under EU law, directives and regulations are different forms of legislation that bind member states in different ways. Both regulations and directives are EU law and take precedence over the national laws of Member States. Regulations are directly applicable and enforceable in member states. Directives are EU laws that must be transformed into national laws that reflect EU law—they set binding goals for Member States but allow flexibility for member states to reach these goals.[148]

Directives and incentives that affect remining activities include the Environmental Impact Assessment Directive ("EIAD")[149] and the recently adopted *Critical Raw Materials Act* ("CRMA").[150] While mining regulation varies from state to state, across the EU the overarching framework is consistent. The Treaty establishes key principles which are to be used to interpret and administer other laws. Meanwhile, the EIAD outlines a compulsory environmental assessment process that all member states must adhere to, and CRMA sets national standards for resource extraction that all member states must meet.

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[146] For an example of the differences between various legislative frameworks in effect throughout the EU, see: European Commission: Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, *Legal framework for mineral extraction and permitting procedures for exploration and exploitation in the EU – Final report* (2016) online: <https://data.europa.eu/doi/10.2873/920344> at xxii [European Commission Legal Framework].

[147] *Treaty on the Functioning of the European Union,* consolidated version, OJ C 326/01 (2012) [*Treaty on the Functioning of the European Union*].

[148] For a basic summary of EU legal structures, see: European Commission, "Types of EU Law" (Last accessed 22 August 2025), online: <https://commission.europa.eu/law/law-making-process/types-eu-law_en>.

[149] EU, Directive 2011/92 of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (codification), [2011] OJ, L 26 [Environmental Impact Assessment Directive].

[150] EU, Regulation 2024/1252 of the European Parliament and the Council of 11 April 2024 establishing a framework for ensuring a secure and sustainable supply of critical raw materials and amending Regulations (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1724 and (EU) 2019/2010, [2024] OJ, L 2024/1252 [CRMA].

Permitting

To begin any mining activity, an EU Member State must grant the relevant permit required by its national laws. While the permitting process varies from one Member State to another, there are several EU laws that set basic standards and requirements to which all Member States must adhere,[151] including Article 191(2) of the Treaty, which lays out four main environmental principles that must guide policy within the scope of EU law. These include: The precautionary principle, the prevention principle, the polluter pays principle, and the principle of rectification at source.[152]

The EIAD lays out the basic Environmental Impact Assessment ("EIA") process that all Member States must observe. The EIAD applies to all public and private projects which are likely to have significant effects on the environment.[153] Under the directive, the EIA process is compulsory for all open-cast mining occupying over 25 hectares, all projects with intensive groundwater abstraction, and all projects that operate waste disposal facilities for hazardous waste.[154] Mining projects that do not meet these criteria are subject to EIA screening. During this screening process, Member States assess the proposed project against various thresholds and criteria (determined by the Member State) to determine if a full EIA is required.[155] Under the EIAD, there are six phases to the EIA process:

(1) a screening process where it is determined whether EIA is compulsory;

(2) a scoping process where to determine the content and extent of information to be submitted to the Competent Authority;

(3) the submission of an EIA report that outlines the project, its effects, and some proposed alternatives to it;[156]

(4) public consultation;

(5) the Competent Authority reviews the results of steps 3 and 4 and makes its decision; and

[151] For a summary of the permitting process in different jurisdictions, see European Commission Legal Framework, *supra* note 1125 at p 54-93. For a summary of permitting procedures that apply across the European Union, see p 20-53.
[152] *Treaty on the Functioning of the European Union*, Title XX, art 191(2).
[153] Environmental Impact Assessment Directive, *supra* note 126 at art 1(1).
[154] *Ibid*, annex 1.
[155] *Ibid*, annexes 2, 3. See also, European Commission Legal Framework, *supra* note 123 at 37-40.
[156] Environmental Impact Assessment Directive, *supra* note 126 at art 5 and annex 4.

(6) the project is monitored and administered by the Developer.[157] Each stage of the EIA process is required to be carried out in accordance with the principles outlined in Article 191(2) of the Treaty.

Other relevant legislation includes the EU Habitats Directive ("HD"), which outlines protections for at risk flora and fauna as well as these species' habitats;[158] the EU Maritime Spatial Planning Directive ("MSPD"), which seeks to promote the sustainable growth of maritime ecosystems;[159] and the EU Water Framework Directive ("WFD"), which establishes protections for bodies of water.[160] Assessment of the impacts of mining projects on flora, fauna, and waterways is also conducted at the permitting stage.

These laws set the baseline to which all Member State permitting processes must adhere. In addition, proponents may be required to apply for additional permits, including discharging permits, water use permits, infrastructural permits, and electrical power grid permits depending on the laws of the applicable Member State.[161]

Under the CRMA, the permitting process has been streamlined to promote access to critical minerals. Article 13 combines the HD, MSPD, and WFD assessment processes into the EIA process under the EIAD for all critical minerals projects (both remining and new mining projects).[162]

Disclosure and the Categorization of Mine Waste

In recent years, environmental organizations have sought to institute remining from the EU level. These groups have identified the need for better and more uniform waste characterization disclosures as an important first step in promoting remining projects as this would enable potential proponents to know which tailings are economically viable for remining.

In the European Union, however, issues of jurisdiction have often hindered these legal measures from being instituted. One environmental group working in the EU, Earthworks, has found that each Member State in the EU has tended to maintain its own standards

[157] For a brief overview of this process, see Youth and Environment Europe, "Environmental Impact Assessment and Public Participation Under EU Law" (Last accessed 12 November 2025), online: <https://yeenet.eu/environmental-impact-assessment-and-public-participation-under-eu-law-legal-seeds/>.
[158] EU, *Directive* 92/43 of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, [1992] OJ, L 206.
[159] EU, *Directive* 2014/89 of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning, [2014] OJ, L 257.
[160] EU, *Directive* 2000/60 of the European Parliament and of the Council of 23 October establishing a framework for Community action in the field of water policy, [2000] OJ, L 327.
[161] European Commission Legal Framework, *supra* note 125 at 54-93.
[162] CRMA, *supra* note 127 at art 13.

regarding mining, leading to considerable discrepancies between one jurisdiction and another.[163] Generally, industry and academic observers have found that the various national mining waste registries have been "too generic to provide information on the recoverability of critical raw materials from mine waste."[164] As a result, jurisdictional inconsistencies have long prevented EU-wide adoption of remining practices.

This was thought to change in 2024, when the EU adopted CRMA, which intends to close the gap between various Member States' respective mining laws. One key aspect of this is CRMA's requirement that both mine operators and Member States take actions to identify available rare earth minerals within extractive waste facilities.[165] Article 27 of CRMA requires mine operators to submit waste management plans as well as a preliminary economic assessment study on the potential for critical raw materials contained within extractive wastes by November 2026. This provision applies to both existing and proposed mining operations.[166]

Article 27 also requires Member States to "establish a database of the closed extractive waste facilities located on their territory, including abandoned extractive waste facilities." This database must include information on:

a) the location, areal extent and waste volume (or if appropriate the estimated volume) of the extractive waste facility;

b) the operator or former operator of the extractive waste facility (and if appropriate their legal successor);

c) the approximate quantities and concentrations of all raw materials contained in the extractive waste (and, where applicable, in the original mineral deposit); and

d) any additional information considered relevant by the Member State to enable the recovery of critical raw minerals.[167]

In order obtain this information, CRMA requires Member States to review available permitting files and documentation, to conduct geochemical sampling, and (where

[163] Earthworks, "Remining for the Energy Transition, Executive Summary" (January 2024), online(pdf): <https://earthworks.org/wp-content/uploads/2024/01/Remining-Executive-Summary-January-2024.docx.pdf> at 3.2.1 [Earthworks Executive Summary]; Maest 2023, *supra* note 1 at 2.3.2.
[164] Maest 2023, *ibid*; See also P. Kinnunen et al, "A review of circular economy strategies for mine tailings" (June 2022) 8 *Cleaner Engineering and Technology*, online: <https://www.sciencedirect.com/science/article/pii/S2666790822001045?via%3Dihub>; and G. Žibret et al, "National Mineral Waste Databases as an Information Source for Assessing Material Recovery Potential from Mine Waste, Tailings and Metalurgical Waste" (May 2020) 10:5 *Minerals*, online: <https://www.mdpi.com/2075-163X/10/5/446>.
[165] CRMA, *supra* note 127 at art 1.
[166] *Ibid*, art 27.
[167] *Ibid.*

"potentially economically recoverable quantities of critical raw materials" have been found and where it is environmentally sound) to "carry out detailed sampling with subsequent chemical and mineralogical characterization involving core logging or equivalent techniques."[168]

In requiring mine operators and member states to classify and categorize waste, CRMA could potentially help the EU overcome one of the major hurdles to remining. According to Earthworks, these national and international characterization and evaluation efforts should serve as a useful repository of "initial information for remining." However, this will not happen overnight, and the organization also cautions that it will likely take years for these efforts "to produce results that can be applied on a larger scale."[169] Nevertheless, the EU believes reporting is a first step toward economically viable remining across the continent, and CRMA imposes a duty on both member states and mining proponents to engage in this process.

Incentivizing Remining

In addition to categorization, remining must be economically advantageous to supplant new mining projects as a source of critical raw materials. To this end, Earthworks has called for the EU to increase economic incentives for remining. Earthworks proposes that the EU can do this by creating a specific "clean technologies fund" under the EU budget. The fund could support activities linked to CREMA and the *Net Zero Industry Act*,[170] which was adopted in 2023.[171] CREMA requires Member States to "adopt and implement measures to promote the recovery of critical raw materials from extractive waste, in particular from closed extractive waste facilities identified in the database referred [to above]."[172]

As part of the EU's Horizon 2020 Research and Innovation Program,[173] the EU has also funded two pilot programs: RAWMINA and NEMO. These programs promote the recovery of critical raw materials from low-grade sulfidic mine waste.

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[168] *Ibid.*
[169] Maest 2023, *supra* note 1 at 2.3.
[170] EU, *Regulation* 2024/1735 of the European Parliament and of the Council of 13 June 2024 on establishing a framework of measures for strengthening Europe's net-zero technology manufacturing ecosystem and amending Regulation (EU) 2018/1724 [2024] OJ L 2024/1735.
[171] Earthworks Executive Summary*, supra* note 140 at 3.2.1.
[172] CRMA, *supra* note 127 at art 27.
[173] Horizon 2020 was a Europe-wide research and innovation funding program that ran from 2014 to 2020. The program carried a budget of more than €80 billion. Additionally, since 2020 the EU has funded a successor program, Horizon Europe, which will fund a similar range of research and innovation projects through 2027. See: European Commission, "What is Horizon Europe?" (Last accessed 25 August 2025), online: <https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en>.

RAWMINA seeks to "develop an industrially scalable Mine Waste valorization pilot," which can remine up to 100-150 kg of mine waste per day, recovering cobalt, antimony, germanium, and tungsten along with gold, silver, and iron-based byproducts. While the initial pilot focuses on active mines of the Iberian Peninsula, the program is intended to demonstrate the feasibility of new technologies and processes which can be adapted and implemented in other locations. These include continuous bioleaching, iron removal with magnetic separation, and water recirculation.[174]

The NEMO project brings together a variety of different interests, including eight industrial partners (two mining companies, four engineering firms, one machine manufacturing company, and one construction materials company), four research institutes, two universities, and an environmental organization.[175] The project focuses on three case studies, each chosen to highlight the potential of different uses for extractive waste. These case studies include: the Sotkamo mine in Finland, which extracts nickel, cobalt, zinc, and copper; the Luikonlahti copper processing facility in Finland; and the Tara zinc and lead mine in Ireland. The program offers funds to existing mine operators to experiment with new remining technologies. At each location, NEMO partners experiment with innovative extraction processes like bioleaching to show that new materials can be extracted from mine tailings and other extractive wastes. The project also ties remining to the production of cement and other building materials. NEMO's partners consider the project a success and are currently seeking to replicate the project at three additional sites.[176]

[174] More information can be found on the RAWMINA program's website: RAWMINA, "A Bright & More Sustainable Future" (Last accessed 25 August 2025), online: <https://rawmina.eu>.

[175] CATAPA is an environmental organization with roots in Europe and Latin America that seeks to promote "degrowth" and to find alternatives to the extraction of non-renewable resources. More on CATAPA's work and mission can be found on the organization's website: CATAPA, "The right to say 'no'" (Last accessed 25 August 2025), online: <https://catapa.be/en/>.

[176] NEMO, "General Presentation" (February 2021), online: <https://h2020-nemo.eu/wp-content/uploads/2021/03/NEMO_corporate_presentation_v_feb_2021.pdf>; NEMO, "Near-zero-waste recycling of low-grade sulphidic mining waste for critical-metal, mineral and construction raw-material production in a circular economy", online: <https://h2020-nemo.eu/project-2/>; For more on NEMO's funding, see: Solvomet Circular Hydrometallurgy "4-year EU H2020 NEMO project secures funding" (26 January 2018) online: <https://solvomet.eu/2018/01/26/eu-h2020-nemo-project-secures-funding/>.