IS A JUST ENERGY TRANSITION POSSIBLE? OBTAINING A SOCIAL LICENSE TO OPERATE FOR CRITICAL MINERALS MINING IN THE UNITED STATES

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As the United States accelerates its transition to renewable energy, demand for critical minerals backs calls for accelerating domestic mining production. Yet the legal framework governing mining remains rooted in the nineteenth century, prioritizing extraction over environmental protection and restoration of trust with communities affected by historical mining harms. The majority of U.S. reserves for cobalt, lithium, and nickel are located within 35 miles of Native American reservations, making collaboration with Native American Tribes imperative for diligent, responsible mining. This article examines what it would mean for the mining industry to obtain a "social license to operate" in the U.S., a symbol of trust between industry and the affected community.

This analysis highlights the structural gaps in existing statutes, including the absence of Free, Prior, and Informed Consent (FPIC) requirements, the limitations of procedural consultation mandates, and the inconsistent application of environmental review under NEPA and related laws. It argues that while legislative reform is politically unlikely in the near term, reinterpretation of existing standards—most notably the Federal Land Policy and Management Act's "unnecessary or undue degradation" provision—offers an immediate pathway to strengthen protections for Tribal Nations and public lands.

Drawing on comparative frameworks from Canada and Australia, as well as emerging best practices like Community Benefit Agreements and capacity-building initiatives, this article outlines pragmatic strategies for integrating Tribal voices and interests into U.S. mining governance. By altering the composition of mineral policy decisionmakers, the United States can align its critical mineral strategy with international human rights norms while avoiding a repeat of extractive harms that have historically burdened Indigenous communities. This article concludes that ensuring a just clean energy transition requires structural reforms that reconceptualize meaningful Tribal involvement, environmental stewardship, and equitable benefit-sharing at the heart of U.S. mining law and policy.

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I. Introduction

Critical minerals are considered immutable facets of the clean energy transition.[1] These minerals include copper, aluminum, and zinc, all of which are integral to wind power technologies.[2] Solar photovoltaic cells depend on the availability of silicon, silver, and tin.[3] Electric cars require nearly double the amount of copper than do conventional cars.[4] Given these substantial input requirements and the growing global energy demand, the need for critical

1. This article employs "critical minerals" as a general term to describe the minerals required for presently deployed energy transition technologies. This scope is narrower than that of the broader definition employed by the United States government, which includes "any mineral, element, substance, or material designated as critical by the Secretary [of the Interior, acting through the Director of the U.S. Geological Survey.]" Energy Act of 2020, 30 U.S.C. § 1606(a), (c). For further discussion on the distinction among the available definitions, *see also* Sam Kalen, *Mining Our Future Critical Minerals: Does Darkness Await Us?*, 51 Env't. L. Rep. 11006, 11008 (2021).
2. Sarah Ladislaw et al., *Critical Minerals and the Role of U.S. Mining in a Low-Carbon Future*, CSIS (Dec. 18, 2019), https://perma.cc/XZC3-6NND.
3. *Id.*
4. Kalen, *Mining Our Future Critical Minerals*, *supra* note 1, at 11007.

minerals is expected to skyrocket over the coming decades.[5] This pressure puts the United States in a difficult position, both geopolitically and economically. The U.S. currently imports more than 50 percent of its annual consumption in 41 of the 50 critical minerals listed by the U.S. Geological Survey; 12 are not even produced domestically.[6] This issue has garnered much bipartisan political attention, with Presidents Obama, Trump, and Biden all advocating for domesticating critical mineral production to reduce dependence on foreign suppliers, particularly on China, although their respective policy rationales for doing so have varied. At first blush, the critical mineral domestic supply chain may seem readily solvable—the U.S. possesses large deposits of lithium, copper, and rare earths on its lands.[7] However, a considerable amount is located in sensitive areas, particularly on federal public lands.[8] When considering the minerals that are "most critical" for clean energy technologies, almost all (i.e., most nickel, 89 percent of copper, 79 percent of lithium, and 68 percent of cobalt) deposits are located within 35 miles of Tribal reservations.[9] This tension will continue to escalate if industry and political appetite to mine and process new minerals increases without significant reforms to the regulatory landscape and Tribal consultation procedures. In recent years, the number of mining claims on federal lands has increased significantly. Recycling of used critical minerals is virtually non-existent.[10] Recent court battles between Tribes and mining companies and/or between Tribes and the federal government regarding proposed mines signal affected Tribes' general distrust of mining operations, which in part stems from their lack of engagement in the planning process.[11]

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5. *Id.*
6. Gabe Neville, *Made in America: The Outlook for Critical Minerals*, Covington Global Policy Watch (Oct. 13, 2025), https://perma.cc/AEV5-6M4N. The list of 35 critical minerals was finalized in 2018, subsequently modified by USGS in 2022 to include 50 minerals. *See* 2022 Final List of Critical Minerals, 87 Fed. Reg, 10381, 10381 (Feb. 24, 2022) (notably removing rare earth elements and uranium from the list and adding nickel and zinc). On August 26, 2025, the U.S. Geological Survey published a draft list of 55 critical minerals. *See* 2025 Draft List of Critical Minerals, 90 Fed. Reg. 41591, 41592 (Aug. 26, 2025) (notably removing nickel and adding copper, lead, silver, and silicon).
7. *Id.*
8. Under the Federal Land Policy and Management Act, 43 U.S.C. §§ 1701 *et seq.* (1976), public lands are defined as "any land and interest in land owned by the United States within the several States and administered by the Secretary of the Interior through the Bureau of Land Management, without regard to how the United States acquired ownership, except (1) lands located on the Outer Continental Shelf; and (2) lands held for the benefit of Indians, Aleuts, and Eskimos." 43 U.S.C. § 1702(e).
9. Biden-Harris Administration Interagency Working Group on Mining Laws, Regulations, and Permitting, Recommendations to Improve Mining on Public Lands 8 (2023) [hereinafter Interagency Working Group Report].
10. Ladislaw et al., *supra* note 2, at 4.
11. There is no uniform consensus on the appropriate terminology for people indigenous to North America and more specifically to the United States. In this article, I generally use the term "Tribes" to refer to Indigenous Peoples in the United States. Legal scholars often use "Indian," the predominant term used in legal settings in the United States. *See, e.g.,* Title 25

The mining industry has not ignored Tribal demands wholesale. Instead, mining companies have attempted to build credibility and obtain a social license to operate (SLO) by providing employment opportunities, contributing to local economic growth, and investing directly into Tribal communities. The SLO concept, recognized globally by policymakers and mining stakeholders alike, deems a symbolic social license to be granted once an impacted community broadly accepts an extractive company's conduct.[12] Scholars have found that Indigenous groups' ability to assert their rights regarding natural resource development has required mining companies to change their operations to obtain a SLO.[13] While tentative progress has been made, especially in other prominent mining jurisdictions like Canada and Australia, these efforts have thus far fallen short in the United States.

In this article, I propose a series of domestic regulatory and structural changes that I believe would be most impactful in enabling industry players to obtain a SLO from affected communities—namely, Tribes.[14] The proposals are ambitious and reject many of the industry practices that have eroded trust among affected communities. They are not, however, unprecedented, and their appeal stems from the long-term, rather than short-term, benefits that they yield. These proposals are meant to minimize harm to the extent currently feasible and seek to remedy past injustices. While these proposals, if effectuated, would apply to all hardrock mineral operations, I retain an exclusive focus on critical minerals—i.e., minerals deemed essential for the energy transition. Given mining's inherently environmentally harmful nature,[15] I am not arguing for a full-fledged expansion of domestic mining, contained only by "adequate"

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of the United States Code titled "Indians." Others use terms such as "Native American," "Indigenous Peoples," or "First Nations." I also decided to capitalize "Tribe/Tribes/Tribal [communities]" even when not referring to a specific Tribe. While this stylistic choice is not universally accepted, the following article provides more information and suggested guidance on this debate. Angelique EagleWoman, *The Capitalization of "Tribal Nations" and the Decolonization of Citation, Nomenclature, and Terminology in the United States*, 49 Mitchell Hamline L. Rev. 624, 627–28 (2023) ("Tribal Nations are nationalities and, therefore, should be capitalized. Likewise, when the word 'Tribes' relates to Tribes in the United States, then the word is referring to nationalities and should be capitalized . . . The lack of capitalization in the United States for Tribal Nations, which have engaged in political diplomacy with the federal government, is a remnant of the colonizing disinformation from a bygone era.").

12. *See, e.g.,* Matthew Berman et al., *Long-term benefits to Indigenous communities of extractive industry partnerships: Evaluating the Red Dog Mine*, 66 Res. Pol'y. J. 1, 1 (2020).
13. *Id.*
14. "Structural" changes include those exclusively in the domain of the private sector and/or non-binding guidance and working methods.
15. *See, e.g., From Gold Rush to Rot–The Lasting Environmental Costs and Financial Liabilities of Hardrock Mining*, GAO (Feb. 22, 2023), https://perma.cc/W4RA-Z4TY (noting that widespread mining on federal land over the last century "has contributed to serious public health, safety, and environmental concerns," particularly due to high rates of mine abandonment that have contributed to "the contamination of 40% of the country's rivers and 50% of all lakes.").

safeguards. Instead, my position is one of necessity—technologically feasible climate mitigation depends on the availability of certain minerals; as such, our policies must reflect this reality. While considerations other than addressing climate change may deem other minerals to be just as "necessary," they are outside of the scope of this article and the recommendations set forth.

This article is organized as follows: Section II provides a historical overview of American mining operations, their acute impacts on Tribes, deficiencies in the current permitting processes related to mining, and the rationale behind focusing on SLO attainment. Section III explores the existing statutory landscape and how it developed, with a particular attention to the Federal Land Policy and Management Act of 1976 (FLPMA) and subsequently promulgated regulations, which substantially amended the liberal mining regime in favor of bolstering environmental protections. Sections IV and V examine mining priorities during the Biden Administration and how those priorities have shifted during the second Trump administration. Section VI outlines some of the significant decisions related to hardrock mining that underscore how the judiciary has (or has not) addressed Tribes' complaints regarding harm caused by mining operations. Section VII highlights a global partnership that emphasizes best practices for sustainable mining. Finally, Section VIII offers two principal priorities for reform: the re-interpretation of what constitutes "unnecessary or undue degradation" under FLPMA, and the implementation of methods to encourage the negotiation of Community Benefit Agreements (CBAs) prior to initiating exploration activities.

II. Historical Background

A. Tribes

1. Domestic Context

The "Marshall trilogy" of cases (*Johnson v. M'Intosh, Cherokee Nation v. Georgia,* and *Worcester v. Georgia*) established the modern-day contours of the "trust responsibility," where the federal government is obligated to treat Tribes fairly and act in their best interests.[16] These cases confirmed that Tribes retain sovereignty and rights to use and occupy their ancestral lands, as well as other express and implied rights as conferred by treaties ratified between the United States and the respective Tribal government.[17] The trust responsibility creates a

16. *See generally* Johnson v. M'Intosh, 21 U.S. 543 (1823); Cherokee Nation v. Georgia, 30 U.S. 1 (1831); 31; Worcester v. Georgia, 31 U.S. 515 (1832); *see also* John M. Petosky, *International Traditional Knowledge Protection and Indigenous Self Determination*, 6 UCLA Indigenous Peoples' J. of L., Culture, & Resistance 118, 128 (2020).

17. Notice of Petition and Petition for Rulemaking: Bringing Hardrock Mining Regulations and Policy into the 21st Century to Protect Indigenous and Public Lands Resources in the

corollary fiduciary relationship based on private trust law principles: Tribes are entitled to monetary damages where the United States has damaged the assets they hold in trust on Tribes' behalf.[18]

However, the Marshall trilogy also provided the legal justification for removing Tribal communities west, with the U.S. government justifying such ethnic cleansing by arguing that the action would protect Tribes from state militias.[19] Under the Indian Removal Act of 1830, many Tribal reservations were established largely in the present-day Oklahoma and Kansas territories.[20] Consequently, Tribes and their members often reside on reservations far removed from their sacred places and ancestral homeland. Despite physical removal, many Tribes retain strong legal, cultural, and spiritual ties to sacred sites and to their ancestral lands.[21]

With the majority of minerals located in the Western U.S., mining has historically impacted Tribes more than any other community or population. American mining resulted in a large number of Tribal displacements, forced relocations, and other injustices, including the forced removal of the Cherokee in the 1830s and forced negotiations in 1863 that resulted in a "Steal Treaty" with the Nez Perce Tribe.[22] On Navajo lands alone, nearly 30 million tons of uranium was extracted in the late 20th century, contributing to chronic health conditions among Navajo people due to the environmental contamination and left-behind waste.[23]

Past and present mining operations have had other lasting impacts, particularly those occurring prior to the enactment of the fundamental environmental laws.[24] In 1871, Congress ended all new treaty-making with Tribes located within the United States.[25] One year later, Congress enacted the Mining Law of 1872, a law that encouraged settler westward expansion by providing

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West 1, 3 (Dep't of Interior Sep. 16, 2021) [hereinafter DOI Petition], https://perma.cc/PGE6-25YQ. Congress ratified a total of 374 treaties between Tribes and the United States. *See* Joel T. Helfrich et al., *No More Nations Within Nations: Indigenous Sovereignty after the End of Treaty-Making in 1871*, 20 J. Gilded Age & Progressive Era 325, 326 (2021).

18. *See generally* Cohen's Handbook of Federal Indian Law § 6.04(3)[a-b] (2025).
19. Helfrich, *supra* note 17, at 326.
20. *See* Cohen's Handbook of Federal Indian Law, *supra* note 18, § 2.05[1].
21. Interagency Working Group Report, *supra* note 9, at 21.
22. *Id.* (noting the impacts of the Georgia gold rush in the 1820s and 30s, and the California gold rush in the late 1840s).
23. Daniel Cardenas et al., *A Pathway to Responsible Mining in Indian Country*, CSIS (Nov. 9, 2023), https://perma.cc/L6YD-L5M4.
24. *E.g.*, the Clean Water Act, the Clean Air Act, the Comprehensive Environmental Response, Compensation, and Liability Act, the Resource Conservation and Recovery Act, and the Federal Land Policy and Management Act.
25. Lawmakers adopted a rider on the prohibition and attached it to the Indian Appropriations Act of 1871, declaring that "hereafter no Indian nation or tribe within the territory of the United States shall be acknowledged or recognized as an independent nation, tribe, or power with whom the United States may contract by treaty." Helfrich, *supra* note 17, at 325.

virtually unfettered access to mineral exploration and extraction on federal land. As a result of this regime, there are now over 160,000 known abandoned mines in the Western U.S. that are on or near reservations.[26] In 2017, more than 600,000 Tribal community members lived within six miles of an abandoned mine.[27] Some of the abandoned lands are now major sites of ongoing, chronic contamination.[28] Mines generate persisting pollution and often require perpetual water treatment.[29] In 2020, the Government Accountability Office (GAO) reported that "about 67,000 [of known abandoned sites] pose or may pose physical safety hazards—danger of injury or death—and about 22,500 pose or may pose environmental hazards—risks to human health or wildlife."[30] In a 2021 Rulemaking Petition Tribes, Tribal Organizations, and NGOs warned that "[l]arge-scale mining currently threatens the land base, Sacred Sites, Treaty rights, and invaluable cultural resources of Indigenous communities *in every western state*…"[31]

In the United States, Tribal governments are sovereign governments. As such, treaties between the United States and Tribal Nations are of equal importance to other federal laws, according to the U.S. Constitution and as confirmed by the Supreme Court.[32] However, as mentioned, Tribes have historically ceded rights, title, and interest in land to the United States through bilateral treaties. Yet, limits on cession of rights remain – for instance, in *United States v. Winans*,[33] the Supreme Court affirmed that Tribes' reserved rights are those not expressly granted to the United States. This formulation is critical for defining the scope of Tribes' legal rights to minerals and other natural resources on their reservations and Tribal fee land; despite this caveat, Tribes still have

26. Johnnye Lewis et al., *Mining and Environmental Health Disparities in Native American Communities*, 4 Current Env't. Health Reps., 130, 130 (2017).
27. American Civil Liberties Union & Human Rights Watch, "The Land of Our People, Forever": United States Human Rights Violations Against the Numu/Nuwu and Newe in the Rush for Lithium 40 (2025) [hereinafter Thacker Pass Report], https://perma.cc/C2QA-E939.
28. Sam Kalen, *An 1872 Mining Law for the New Millennium*, 71 U. Colo. L. Rev. 343, 353 (2000); *see generally* U.S. Gen. Acct. Off.,. GAO/RCED-88-123BR, Federal Land Management: An Assessment Of Hardrock Mining Damage (1988), https://perma.cc/LGY7-Q9H7.
29. Lisa Sumi & Bonnie Gestring, Earthworks, Polluting the Future: How Mining Companies are Polluting Our Nation's Waters in Perpetuity 4 (2013), https://perma.cc/5S6C-Y4S4.
30. U.S. Gov't Accountability Off., GAO-20-238, Abandoned Hardrock Mines: Information on Number of Mines, Expenditures, and Factors that Limit Efforts to Address Hazards, Highlights (Mar. 2020), https://perma.cc/EHS5-9HLF; *see also* Interagency Working Group Report, *supra* note 9, at 34 (noting that these estimates appear to be conservative).
31. DOI Petition, *supra* note 17, at 6 (emphasis added).
32. Interagency Working Group Report, *supra* note 9, at 68–69.
33. 198 U.S. 371 (1905).

significantly fewer rights on land they have ceded or which exists outside of their reservation boundaries.[34]

2. International Context

Unfortunately, human rights risks and violations pervade the critical minerals sector worldwide. These harms include the involuntary resettlement of Indigenous Peoples without adequate consultation and compensation, large-scale environmental degradation, deprivation of livelihoods and access to basic resources such as clean air and water, forced labor, and sexual and gender-based violence.[35] In the United States, mines on Tribal lands have also led to increased sexual violence, historically against women. [36]

The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), codified in 2007, offers aspirational goals premised upon international human rights law to incorporate into domestic frameworks.[37] Discussed in greater detail in Section III *infra,* UNDRIP provides a set of best practices both the U.S. government and industry actors can adopt when considering the adequacy of Tribal consultation and safeguarding Tribal interests.

Indigenous Peoples are uniquely affected by natural resource development in three major ways.[38] First, a large proportion of the world's remaining natural resources—including minerals, fresh water, and potential energy sources—are located on Indigenous lands; as such, natural resource extraction increasingly occurs around these areas. Second, we are in a "boom" period for mining—global demand for natural resources has skyrocketed in recent years, driven especially by population booms and development needs across China and India. This demand invites mining near (and even on) Indigenous territory, potentially

34. Interagency Working Group Report, *supra* note 9, at 69. Due to space constraints, I will not discuss the differing status of Tribal lands. For an in-depth discussion, *see generally* Mariel J. Murray, Tribal Lands: Overview and Issues for Congress (Cong. Rsch. Serv. 2025).

35. Press Release, U.N. Office of the High Commissioner on Human Rights, All Action on Critical Energy Transition Minerals Must Respect Human Rights: UN experts (Sep. 18, 2024), https://perma.cc/D637-UGRB; *see also* James Anaya (Special Rapporteur on the Rights of Indigenous Peoples), *Extractive Industries Operating Within or Near Indigenous Territories,* ¶¶ 30–55, U.N. Doc. A/HRC/18/35 (July 11, 2011) (summarizing human rights violations caused by extractive operations globally).

36. *See, e.g.*, Galina Angarova, *Demand for Minerals Sparks Fear of Mining Abuses on Indigenous Peoples' Lands*, NPR (Jan. 25, 2024), https://perma.cc/9MF2-85RA.

37. G.A. Res. 61/295, U.N. Declaration on the Rights of Indigenous Peoples (Sep. 13, 2007).

38. *The Double Life of International Law: Indigenous Peoples and Extractive Industries*, 129 Harv. L. Rev. 1755, 1756 (2016) [hereinafter *Double Life*]; *see also* Valentina S. Vadi, *When Cultures Collide: Foreign Direct Investment, Natural Resources, and Indigenous Heritage in International Investment Law,* 42 Colum. Hum. Rts. L. Rev. 797, 836 (2011); United Nations Permanent Forum on Indigenous Issues, Backgrounder: Indigenous Peoples – Lands, Territories and Natural Resources 3 (2007) https://perma.cc/EG7M-QZBQ.

risking Tribal members' health and livelihoods at the expense of profit and supply chain pressures. Third, the aggressive establishment of liberal investment regimes and the proliferation of risk-mitigating investment treaties have lowered the costs of global engagement in resource development, enabling transnational enterprises to operate in regions previously beyond reach.[39] However, efforts to develop an environmentally and socially-sensitive pipeline of domestic mining projects can mitigate risks arising from international operations that may lack oversight and legal protection.

B. The Need for a Social License to Operate

Today, affected communities more ardently resist U.S. mining industry operations than they did a few decades ago.[40] Public opposition to natural resource development continues to grow and is increasingly recognized by the judiciary as well as by administrative officials, affecting both substantive regulatory actions taken and court decisions on the merits.[41] The basic tenets of dialogue, credibility, and trust are often missing in the relationships between the mining industry and the communities in which they work.[42]

Full legal compliance with state environmental regulations is often insufficient to resolve mining issues. Because compliance requires fairly minimal consultation with affected communities (who are often Tribes), there is now a need for mineral developers to gain an additional "'social license to operate' (SLO) in order to avoid potentially costly conflict and exposure to social risks.[43] A social license exists "when a mining project is seen as having the ongoing approval and broad acceptance of society to conduct its activities."[44] Currently, permitting times and litigation continue to plague mining projects across the

39. *See Double Life*, *supra* note 38, at 1756*; see also* Richard Cronin, Natural Resources and the Development-Environment Dilemma, *in* Exploiting Natural Resources at 63 (Richard Cronin & Amit Pandya eds., 2009).

40. *See* Jason Prno & D. Scott Slocombe, *Exploring the Origins of 'Social License to Operate' in the Mining Sector: Perspectives From Governance and Sustainability Theories*, 37 Res. Pol'y 346, 346 (2012) (explaining that increased attention to the mining sector's environmental and social effects by governing actors has contributed to affected communities' enlarged influence in mining-related decision-making).

41. *See, e.g.,* Hardrock Mineral Leases, Serial, MNES-01352 and MNES-01353 (Dep't of Interior Jan. 26, 2022) (final decision), https://perma.cc/7M6G-9SGG (documenting how BLM under the Obama Administration rejected an application for renewal of two mineral leases in northern Minnesota due to public concerns about potential water contamination. The lease was reinstated in 2019 under the Trump Administration, and subsequently reversed as improperly issued under the Biden Administration.); *see also* Utah Physicians for a Healthy Environment v. BLM, 528 F.Supp.3d 1222 (D. Utah 2021) (ruling in favor of conservation plaintiffs' objections that BLM failed to adequately account for environmental harms that would result from expansion of a coal mine near Bryce Canyon National Park).

42. *Id.* at 5.

43. Prno & Slocombe, *supra* note 40, at 346.

44. *Id.*

western United States, indicating that these mining operators lack a SLO in the communities where the proposed mining sites are located.

The SLO is the affected community's key barometer of trust of the mining operator(s) (and, by extension, of the state actors). Absent such trust, communities are likely to assume an adversarial role, instead persisting in their convictions that the mining operation is harmful, not beneficial, to the community and the region. These beliefs are often warranted, particularly in contexts where industry historically has engaged in unsustainable mining practices.[45] Strategies for SLO negotiations must be context- and community-specific, given the range of potential concerns and harms from past mining operations that may remain prevalent or cognizable in the particular community.[46] Obtaining a "social license" from affected communities thus remains critical for rehabilitating trust between Tribes, the mining industry, and the U.S government; otherwise, the mining project will likely be subject to outsized local opposition, potentially contributing to drawn-out litigation, high expenditures, and delays in project timelines.

C. Mining Operations (Generally)

The modern hardrock mining process cannot be completed without damaging the local environment.[47] In addition to post-hoc consequences, the government has limited avenues to preemptively contain potential damage. Notably, the U.S. is perceived to lack an effective process for collecting and disseminating geologic data that would help companies locate valuable mineral deposits and accelerate the early stages of laying mining claims pursuant to the 1872 Mining Law.[48] Decades ago, the U.S. Bureau of Mines (USBM) was responsible for conducting scientific and technological investigations concerning mining to improve health, safety, and resource conservation considerations as well as those of efficiency and economic development.[49] As the central federal

45. *Cf. id.* at 348 (finding that the term "sustainable development" is a relatively recent innovation and was not traditionally considered to be a required facet of the extractives industry's operations).

46. *See, e.g.*, *id.* (explaining that some communities may never grant a SLO because of their underlying belief that mining is never "an acceptable livelihood").

47. These mining operations involve ore extraction from open pits or tunnels using explosives. Operators remove the topsoil and waste rock, frequently placing the latter in unlined piles at the site. Some processing techniques require large amounts of water and include the infusion of various chemicals. Waste tailings can either be filtered and disposed of in an underground mine or in surface impoundments. In situ extraction, a different processing method, does not generate waste rock or tailings, but risks contaminating the groundwater by injecting leaching solution underground. Increasing water scarcity due to climate change means that mines with large fresh- or groundwater requirements can exacerbate local drought conditions. Interagency Working Group Report, *supra* note 9, at 25–27.

48. *Id.* at 92.

49. *Id.* at 90.

steward of mining data, the USBM also disseminated information concerning mineral deposits and the mineral industry at large.[50] Congress shut down the agency in 1996 in part because it was "seen as an aging institution whose work was overlapped by other agencies."[51] Since its shuttering, the U.S. government has not required companies to share mining and exploration data with either the federal or state governments involved in the decision-making/permitting process.[52]

In addition to engineering and data limitations, there are rarely efforts to monitor and mitigate the social impacts of mining in the United States. As discussed in Section III *infra*, while legal requirements exist to monitor environmental outcomes during mining operations, social impacts fall to the wayside.[53]

1. Current Deficiencies in Permitting

As described in Section IV *infra* (laying out current Bureau of Land Management (BLM) and U.S. Forest Service (USFS) mining regulations), a mining applicant must submit a proposed plan of operations before there are any legally required opportunities for public comment. Casual use and notice-level activities are exempt from National Environmental Policy Act (NEPA) requirements and, often, the only "meaningful" public comment opportunity arises once the NEPA process is activated.[54] For plan-level operations, because the drafting of the Environmental Impact Statement (EIS) will only begin after the plan is submitted, the belated window for comment means that mining companies often submit plans without adequately consulting affected communities and/or Tribes. The lack of engagement "can undermine trust, engender confrontation, and complicate environmental analyses."[55]

With more contentious mining projects that face large community opposition, permitting can take up to a decade.[56] However, that timeframe only reflects the permitting aspect. In fact, the total length of time between the initiation of exploration to the start of commercial production is approximately 16 years.[57] Eager to enter production and recoup capital expenditures, industry representatives have pushed for permitting reform to accelerate projects that are ready to enter the construction and commercial operation phases. The GAO

50. *Id.* at 90–91.
51. Jerrold J. Marcus & Erika Hobbs, *The Shutdown of the U.S. Bureau of Mines: A Devastating Loss*, 199 Eng'g & Mining J. 32QQ, 32QQ (1998).
52. Interagency Working Group Report, *supra* note 9, at 92.
53. *Id.* at 78.
54. *See, e.g.,* Min. Pol'y Ctr. v. Norton, 292 F.Supp.2d 30, 32–33 (D.D.C. 2003).
55. Interagency Working Group Report, *supra* note 9, at 63.
56. Kalen, *Mining Our Future Critical Minerals*, *supra* note 1, at 11008–09 ("The chief executive officer of the Thacker Pass mine lamented how it took his project nine years to wind through the permitting process.").
57. Interagency Working Group Report, *supra* note 9, at 54.

reported that permitting delays stem from the submission of incomplete mine plans of operation, a lack of qualified staff to review documents, and substantive revisions to mine plans post-submission that require new analysis.[58]

Mine permitting creates unique considerations given mining's long-term and often permanent effects. Thus, some costs cannot be avoided by demanding a more thorough permitting process. This reality further supports the need for the relevant lead agency and mining claimant to engage with the affected community before the mining plan of operations is submitted to negotiate solutions for unmitigable harms.

Moreover, Tribal consultation requirements can impact permitting decisions. Agencies must consult with Tribes to determine whether Tribal treaty or reserved rights may be impacted by the proposed federal action.[59] However, Tribes have raised concerns that agencies do not adequately consider treaty and reserved rights for mining projects, contending that these decisions are made without the free, prior, and informed consent (FPIC) of the affected Tribe(s).[60] While, as discussed in Section III *infra*, U.S. law does not require government or private actors to obtain FPIC from affected Tribes, the Constitution demands that the federal government respect existing treaty rights. Even when Tribes are consulted, the need for speedy environmental review can overly hasten a Tribal government's review and do more harm than good—instead, the Tribal government decisionmakers need time to review and consider the highly technical plans and often dense body of information the companies include.[61]

III. Legislative, Regulatory, and International Legal Landscape

A. International Standards and Customary International Law

Indigenous Peoples' rights and corporate accountability are major subjects of multilateral treaty negotiations among sovereigns. This article's scope is largely limited to evaluating the domestic American legal framework, but it is important to acknowledge that the United States is bound by any legal obligations arising from customary international law or treaties it has ratified. The U.S. must act in line with such obligations, which can be fulfilled by codifying the international requirements into domestic law.

A notable document is the United Nations Declaration on Rights of Indigenous Peoples (UNDRIP). It was adopted by the U.N. General Assembly

58. *Id.* at 56.

59. Advisory Council on Historic Preservation, *Tribal Treaty Rights in the Section 106 Process* 1, 1 (2018), https://perma.cc/B9JX-BE73; *see also* Interagency Working Group Report, *supra* note 9, at 69.

60. *See id.* at 70.

61. *Id.* at 74.

(GA) in 2007.[62] The U.S. was 1 of 4 countries in the GA that opposed the Declaration, with 143 countries voting in favor.[63] While the Obama administration later clarified that the Declaration, while not legally binding, "expresses aspirations of the United States," UNDRIP largely remains just that: aspirational.[64] However, there is an argument that the overwhelming support for UNDRIP's key provisions, including Article 32 which requires the attainment of Free, Prior, and Informed Consent (FPIC) prior to the commencement of any project operations affecting Tribes, would make these provisions customary and thus universally binding.[65] In comments submitted to the Interagency Working Group (IWG) on the draft report, Tribal Nations and several NGOs strongly supported the adoption of FPIC for mining projects located in the U.S. Over 175 Tribal Nations, Tribal organizations, and other public interest groups encouraged the U.S. to codify FPIC into its mining regulations.[66]

B. The Initiative for Responsible Mining Assurance (IRMA) Standards

The Initiative for Responsible Mining Assurance (IRMA)—founded in 2006 by NGOs, industry stakeholders, affected communities, and unions—has developed a comprehensive standard replete with best practices for environmental and social responsibility in mining.[67] The standard is developed through a public consultation process that engages affected communities, particularly Indigenous Peoples.[68] IRMA considers community outreach and public engagement to be central tenets of modern mining practices. An earlier draft of the standard, published in 2021, stated that extractive industries acknowledge that "efforts spent

62. G.A. Res. 61/295, *supra* note 37.

63. The other countries voting against the Declaration—Australia, Canada, and New Zealand—all host large mining industries and are key players in global mineral supply chains. The United States eventually changed its position and issued a qualified endorsement of the Declaration. Christophe Golay, The Geneva Academy, Research Brief: The Implementation of the United Nations Declaration on the Rights of Peasants and other People Working in Rural Areas 2 (2019), https://perma.cc/9J3C-53WZ.

64. Advisory Council on Historic Preservation, *United Nations Declaration on the Rights of Indigenous Peoples Background* (Sep. 21, 2025), https://perma.cc/4QL2-UMG9.

65. *Id.* Article 32(2) of UNDRIP entails that "States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources."

66. Interagency Working Group Report, *supra* note 9, at 76.

67. *See IRMA Standard*, Initiative for Responsible Mining Assurance, https://perma.cc/T69M-PJAA. "Best practices" refers to "a set of auditable requirements that reflects agreement of the multi-stakeholder IRMA process on the most effective way to achieve the agreed social and environmental objectives… given the current state of knowledge." Initiative For Responsible Mining Assurance, DRAFT Standard for Responsible Mining and Mineral Processing 2.0 6 (2023) [hereinafter IRMA 2.0], https://perma.cc/4GW8-AHEV.

68. IRMA 2.0, *supra* note 67, at 7.

on building respectful relationships, responding to community and indigenous peoples' concerns, and minimizing project-related impacts can be beneficial to both companies and affected communities."[69]

In addition to early engagement, IRMA encourages companies to engage in continuous and transparent dialogue with stakeholders to maintain trust and address any concerns. The updated 2023 standard requires that a company create an environmental and social impact monitoring program and facilitate stakeholder participation while implementing the program.

IRMA spends substantial time encouraging governments to require FPIC, as articulated in UNDRIP.[70] IRMA assumes FPIC is possible when the decision is made by Indigenous Peoples' representative decision-making institutions, even if some community members disagree.[71] IRMA considers it to be a "critical requirement" that all "[p]roposed activities only proceed with the FPIC of all affected communities of Indigenous Peoples."[72] Because the United States does not formally incorporate FPIC into its legal requirements, the domestic legal framework lags behind best practice in this regard, and remains a barrier to obtaining SLO from Tribes.

IRMA standards include considerations of developing CBAs.[73] While CBAs will be considered in greater detail in the following section, IRMA generally requires companies to ensure that CBAs are developed transparently, with local participation, and equitably, considering demographics such as gender.[74] Community benefits should also be "self-sustaining," meaning that the company invests in capacity building to ensure projects can continue after the closure of mining operations.[75] The company should also create a local procurement policy that includes targets for local sourcing and incorporates environmental and human rights standards for suppliers.[76]

C. The 1872 Mining Law

1. Overview

Mining operations in the United States are primarily governed by the Mining Law of 1872 (hereinafter "Mining Law"). The Mining Law was passed to

69. Initiative for Responsible Mining Assurance, Draft IRMA Standard for Responsible Mineral Exploration and Development 71 (2021), https://perma.cc/MPW7-WCWP.
70. IRMA 2.0, *supra* note 67, at 121–40.
71. *Id.* at 121.
72. *Id.* at 125.
73. *See id.* at 141–49.
74. *Id.* at 143.
75. *See id.* at 145.
76. IRMA 2.0, *supra* note 67, at 146.

encourage mining operations through westward expansion.[77] The law allows prospective miners, both individuals and corporations, to gain exclusive possessory mineral rights (e.g., inherit a *valid* mining claim), provided that they comply with the Mining Law's minimal requirements and with other applicable federal and state laws.[78] Following the Mining Law's enactment, mineral locators can claim all minerals other than coal on *federal public lands* without paying any fees to the United States and without acquiring title to the land itself.[79] Alternatively, the Mining Law permits a claimant to obtain title to the lands by proving the location of the valuable mineral deposit and paying a small fee per acre, ranging from $2.50-$5.00.[80] Since the law's passage, approximately 3.2 million acres of federal land have been transferred to mining companies.[81] As of 2018, there are over 700 nonfuel mining operations able to mine on public lands because of the Mining Law.[82] In order to qualify for a patent, a miner must first "locate" a valid mining claim by discovering a "valuable mineral deposit."[83] A "valuable mineral deposit" is subject to the "prudent person" and "marketability" tests to confirm its nature.[84]

Prospectors were not required to file notice of a claim with the federal government. The BLM, the agency responsible for administering the hardrock mining system, did not even exist until 1946.[85] Because BLM was administratively, not legislatively, established, it had little power to control and monitor

77. 30 U.S.C. §§ 21 *et seq.* (2000); Kalen, *Mining Our Future Critical Minerals*, *supra* note 1, at 11011.

78. Kalen, *Mining Our Future Critical Minerals*, *supra* note 1, at 11011–12; *see also* Hafen v. United States, 30 Fed. Cl. 470, 473–74 (1994).

79. Interagency Working Group Report, *supra* note 9, at 35; *see also* Union Oil Co. v. Smith, 249 U.S. 337, 348–49 (1919) (affirming the ability to secure an exclusive possessory right on federal land).

80. 30 U.S.C. §§ 29–30, 37; *see also* Min. Pol'y Ctr. v. Norton, 292 F.Supp.2d 30, 32–33 (D.D.C. 2003).

81. Interagency Working Group Report, *supra* note 9, at 19.

82. Kalen, *Mining Our Future Critical Minerals*, *supra* note 1, at 11023.

83. Kalen, *Mining Law for the New Millennium*, *supra* note 28, at 349.

84. In *Castle v. Womble*, an administrative decision, the Department of Interior articulated the "prudent person" test to determine whether the mineral is valuable. The test requires that "a person of ordinary prudence would be justified in the further expenditure of his labor and means" in successfully developing a valuable mine. Castle v. Womble, 19 LL.D. 455, 457 (1894). The Supreme Court adopted the prudent person test in later decisions. *See, e.g.*, Cameron v. United States, 252 U.S. 450 (1919). Further, in *United States v. Coleman,* the Supreme Court imposed an additional "marketability test" on the mining claim, where a valuable mineral deposit means that the mineral extractor must be able to sell the extracted minerals at a profit. 390 U.S. 599 (1968). *See also* Kalen, *Mining Law for the New Millennium, supra* note 28, at 351.

85. Thomas F. Darin, *The Bureau of Land Management's Proposed Surface Management Regulations for Locatable Mineral Operations: Preventing or Allowing Degradation of the Public Lands?* 35 U. of Wyo. Land & Water L. Rev. 309, 312 (2000).

the effects of hardrock mining.[86] However, the enactment of the Federal Land Policy and Management Act in 1976 (described in more detail below) gave BLM enforcement authority and required that owners of unpatented claims file a notice or certificate of claim in a BLM field office.[87] The claim is held *in perpetuity* as long as the claimant continues to comply with all applicable laws and regulations (i.e., pay an annual maintenance fee or perform assessment work in the event of receiving a fee waiver).[88] Prior to the mid-1990s, if a claimant identified a valuable mineral deposit, they could apply for and receive a patent, which conveys fee simple ownership of both the land surface and the subterranean minerals.[89] A patent converts publicly owned lands and minerals found on those lands into private property.[90] However, in 1994, Congress established a moratorium on new patent applications.[91] Thus, while new mineral discoveries cannot be patented, they can still be classified as "valid mining claims" held in perpetuity. The moratorium does not apply retroactively, so any patents already issued remain enforceable.[92]

While the Mineral Leasing Act of 1920 removed oil, natural gas, and select other minerals from the Mining Law's location and patent system, nearly all hardrock minerals, including critical minerals such as graphite, lithium, and cobalt, remain locatable minerals under the 1872 Mining Law, provided that they are discovered on open public lands.[93] While Section 204 of FLPMA permits the Secretary of the Interior to withdraw federal lands from the Mining Law's purview, these determinations do not affect valid mining claims already in effect.[94] For instance, some mining claims remain on National Park System and National Wildlife Refuge System lands, even though these lands are subject to protective designations and have been withdrawn from the Mining Law's location system.[95]

Mining operations are classified into three categories: "casual use, notice-level, and plan of operations-level."[96] For casual use activities, defined as activities with "negligible disturbance," operators do not need to notify BLM

86. *Id.*
87. 43 U.S.C. § 1744(a); *see* Darin, *supra* note 85, at 312.
88. Interagency Working Group Report, *supra* note 9, at 37; *see also* Kalen, *Mining Law for the New Millennium*, *supra* note 28, at 349.
89. U.S. Dep't of Interior, Off. of the Solic., *Memorandum: Entitlement to a Mineral Patent Under the Mining Law of 1872* 1, 1 (Nov. 12, 1997).
90. Interagency Working Group Report, *supra* note 9, at 19 (noting that taxpayers "receive little, if any, direct compensation for the lands and minerals conveyed out of public ownership").
91. *See* DOI & Related Agencies Appropriations Act, Pub. L. No. 103-332, § 112, 108 Stat. 2499, 2519 (1994); *see also id.*
92. Interagency Working Group Report, *supra* note 9, at 19.
93. *Id.* at 35; *see also* Darin, *supra* note 85, at 311.
94. Interagency Working Group Report, *supra* note 9, at 36.
95. *Id.* at 37.
96. Darin, *supra* note 85, at 313.

or provide financial guarantees for reclamation.[97] Notice-level activities include explorations "causing surface disturbance of 5 acres or less of public lands on which reclamation has not been completed;"[98] while operators must file a notice with BLM, BLM does not need to approve these operations.[99] Courts have determined that the lack of approval indicates that notice-level activities do not involve any "major federal action" and are thus exempt from NEPA requirements.[100] For plan-level operations, the disturbance activities are greater than casual use and go beyond the notice-level category;[101] operators must submit a plan of operations and obtain BLM's approval before proceeding with the project, even if they have established a valid mining claim.[102] BLM requirements for notice- and plan-level operations are further discussed in Section IV *infra*.

2. Tribal Concerns Arising Under the Mining Law

Tribes, NGOs, and many communities fear that the indefinite nature of the mining claims established under the Mining Law can interfere with federal agencies' motivation to invest in site development and restoration on lands subject to mineral claims because future mining activity can impede and even reverse these investments.[103] More concretely, because federal safeguards are not triggered until after the location phase, BLM and USFS are limited in their ability to require significant changes to the plan of operations, such as moving the mining project to protect Tribal cultural artifacts or requiring the most protective methodology given the location and grade of the mineral deposit.[104] Moreover, due to intense political pressure, agencies rarely deny plans of operation.[105] These challenges are further analyzed in Section IV *infra*.

3. Mining Law Reform Efforts

While I welcome the proposed legislation that aims to reform the Mining Law, given congressional gridlock and pushback by the mining industry to these proposals, my arguments assume that the Mining Law will not undergo material changes in the next decade.[106] This assumption notwithstanding, the

97. *Id. See* 43 C.F.R. §§ 3809.10, 3809.5 (2025) for a more comprehensive definition of "casual use."
98. *Id.* § 3809.21(a).
99. *Id.* § 3809.10(b).
100. *See, e.g.,* Min. Pol'y Ctr. v. Norton, 292 F.Supp.2d 30, 54–56 (D.D.C. 2003).
101. 43 C.F.R. § 3809.11 (2025).
102. *Id.* § 3809.10(c).
103. Interagency Working Group Report, *supra* note 9, at 38.
104. *See id.* at 74.
105. *See id.*
106. Mark Squillace, *The Enduring Vitality of the General Mining Law of 1872*, 18 Env't Law Rep. News & Analysis 10261, 10268 (1988) (observing that "[l]ittle progress has been made"

following paragraph provides a brief overview of the legislative proposals and how the reforms could impact the U.S. mining legal framework.

Many NGOs and Tribes support establishing a nationwide hardrock leasing system, a system that most other countries already have in place.[107] Alternatively (or in tandem), these groups support comprehensive land-use planning to withdraw additional lands from mineral exploration and development. In its recommendations, the IWG firmly endorsed "a leasing system for hardrock minerals that is built upon a robust land use planning framework."[108] The IWG suggested that such a system would drive development to high-mineral-value areas that don't substantially impact sensitive lands or sacred sites. In the event Tribes are impacted by the proposed mining development, or in response to calls to address legacy impacts, the government could commit revenue raised from new royalties and updated claim maintenance fees to be channeled back to Tribal governments via revenue sharing provisions.[109]

As stated previously, congressional gridlock and industry interests have thwarted reform efforts *for over a century*.[110] The hardrock mining industry has also threatened Congress with a legal challenge, arguing that any reforms made applicable to existing mining claimants would constitute an unconstitutional taking.[111] Even the 2019 bill, which was proposed in the backdrop of the Gold King Spill (where three million gallons of toxic wastewater were spilled into Colorado's rivers), did not gain traction.[112] It is an understatement to say legislative reform is an uphill battle; so far, President Trump has not publicly expressed support for the creation of a leasing system. Near-term change appears as unrealistic as ever.

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on Mining Law reform "due to the lack of consensus regarding the scope and nature of the needed changes."). *But see* Kalen, *Mining Our Future Critical Minerals*, *supra* note 1, at 11008 (arguing that critical mineral land planning policy should only occur once Congress amends the Mining Law and establishes a leasing system).

107. *Letter from Arizona Mining Reform Coalition et al. to Steven Felgus, Deputy Asst. Sec. Land and Minerals Mgmt.* (Aug. 30, 2022) (on file with the Harvard Environmental Law Review). Interagency Working Group Report, *supra* note 9, at 42 (noting that while Canada maintains a claim system for exploration, it requires transfer to a lease for commercial production).

108. Interagency Working Group Report, *supra* note 9, at 96.

109. *Id.* Congressional action is required to adjust claim maintenance fees because DOI currently does not possess the statutory authority to do so.

110. *Cf.* Squillace, *The Enduring Vitality of the General Mining Law of 1872*, *supra* note 106, at 10268.

111. Kalen, *Mining Law for the New Millennium*, *supra* note 28, at 358.

112. *See, e.g.,* Press Release, U.S. Senator Michael Bennet, Bennet Reintroduces Bill to Reform Antiquated Hardrock Mining Laws (May 13, 2019), https://perma.cc/R8WD-XWPB.

D. State Standards

States, either with sole jurisdiction or under a cooperative federalism framework, generally regulate facets of mining operations, including groundwater use and impacts and tailings dam safety.[113] BLM's Subpart 3809 regulations do not preempt state laws that concern the conduct of mining operations.[114] States vary in their respective degree of environmental regulation over mines. For instance, New Mexico and Colorado will restrict mining permits if there is no reasonable end date for environmental control measures.[115] Some states also have state Environmental Policy Act regulations (or "little NEPAs") that require environmental impact reviews before a state authority will allow a mining plan to proceed through the permitting process.

BLM and the USFS will rely on state regulations for tailings management, since tailings are exempt from the Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous waste regulations.[116] However, due to the disparities among state enforcement requirements, such reliance does not automatically mean that mining waste does not pose substantial harms to the environment or local communities.

E. The Federal Land Policy and Management Act of 1976 (FLPMA)[117]

FLPMA provides the U.S. government with the authority to protect against "abuses and ecological harms associated with mining."[118] FLPMA vests the Department of the Interior (DOI), and more specifically the BLM, with the authority to withdraw public lands from location under the Mining Law. Withdrawal must be "for the purpose of limiting activities under those laws in order to maintain other public values in the area or reserving the area for a particular public purpose or program."[119] A withdrawal must be periodically renewed, typically every 20 years or so. If DOI does not complete the process on

113. Interagency Working Group Report, *supra* note 9, at 50.

114. Darin, *supra* note 85, at 315 (noting that the BLM director can still consult with states to create a joint federal/state program for administration and enforcement of UUD-related regulations).

115. N.M. Stat. Ann. § 69-36-12(B)(4) (West 2020); Colo. Rev. Stat. Ann. § 34-32-116(7)(g)(II) (West 2024).

116. 42 U.S.C. § 6921(b)(3)(A)(ii). RCRA gives EPA the authority to control hazardous waste from "cradle-to-grave." *Resource Conservation and Recovery Act (RCRA) Overview*, EPA (Sep. 11, 2024), https://perma.cc/4P37-VN4S.

117. 43 U.S.C. §§ 1701 *et seq.* (1976).

118. Kalen, *Mining Our Future Critical Minerals*, *supra* note 1, at 11015 (FLPMA builds on a patchwork of other preventative laws, including the 1897 Forest Service Organic Administration Act and subsequent Forest Service statutes, the Mining Claim Occupancy Act, and the Surface Resources Act of 1955).

119. 43 U.S.C. § 1702(j) (1994).

time, new claims can be located without any prior notice to the community.[120] FLPMA "represents an attempt by Congress to balance the use of the public lands by interests as diverse as the lands themselves."[121]

F. BLM and U.S. Forest Service (USFS) Regulations

1. BLM Overview

While BLM and USFS have implemented regulations intended to safeguard public health and environmental safety in hardrock mining, the agencies lack meaningful enforcement authority to induce compliance. DOI, through BLM, initially promulgated mining regulations in 1980, later updating them in 2000 and 2001.[122] In addition to confirming that submitted plans conform to federal and state pollution control standards, BLM can require additional water quality mitigation measures in land use plans under its FLPMA-delegated authority.[123] However, current regulations do not provide for civil penalties for violations.[124] Rather, BLM can issue a noncompliance order and, if the operator fails to comply with the order for a significant violation, BLM can order the operator to suspend operations.[125] In addition to civil penalties, BLM can seek criminal penalties for "knowing and willful violations" in an Article III court.[126]

For mining operations causing a cumulative surface disturbance across five or more acres, or for activity in areas with certain designations (e.g., an area designated an "Area of Critical Environmental Concern"), operators must submit a plan of operations to BLM for approval.[127] Upon receiving the plan, BLM publishes a notice of availability and accepts public comment on the plan. Because BLM must formally approve the plan of operations and issue a permit, it is subject to the NEPA process.

BLM has promulgated regulations regarding use and occupancy of land under the mining laws [hereinafter "Subpart 3715"].[128] Subpart 3715 regulations

120. *See* Interagency Working Group Report, *supra* note 9, at 38 (describing how, when the contaminated and abandoned Zortman-Landusky mine site in Montana was not withdrawn, miners located 10 new claims, resulting in vitriol among nearby Tribal communities.)
121. Rocky Mountain Oil & Gas Ass'n v. Watt, 696 F.2d 734, 738 (10th Cir. 1982).
122. Codified at 43 C.F.R. §§ 3809.1–5. These regulations are discussed further in Section IV *infra*.
123. *See, e.g.*, Bureau of Land Mgmt., H-3809-1, Surface Management Handbook 5-15 § 5.3.5 (2012).
124. Interagency Working Group Report, *supra* note 9, at 31–32 (noting FLPMA does not explicitly provide such authority).
125. *Id.* (stating that the suspension order is subject to due process requirements, including notice and an opportunity for an informal hearing before the BLM State Director).
126. 43 C.F.R. §§ 3809.605, 3809.700 (2025).
127. *Id.* §§ 3809.11, 3809.411 (explaining actions requiring submission of a plan of operations and what action BLM will take upon receiving a plan of operations).
128. 43 C.F.R. § 3715 (2025).

explain actions BLM can take to "eliminate invalid uses" of public lands "while recognizing *valid* rights and uses under the Mining Law of 1872."[129] Subpart 3715 allows BLM to issue an immediate temporary suspension order of valid mining operations if the agency deems suspension is necessary to protect health, safety, or the environment.[130] Operators failing to comply may be subject to civil action in federal court, which can include damages. However, because BLM itself lacks civil penalty authority, operators tend to treat BLM enforcement actions "less seriously."[131]

2. USFS Overview

USFS first promulgated its regulations in 1974 and has not significantly revised them since.[132] The requirements are less detailed than DOI's performance standards. For mining operations that might cause a significant disturbance, operators must submit a Notice of Intent. Subsequently, USFS *may* request a plan of operations, and is required to request one where significant disturbance is "likely."[133] NEPA requirements are triggered only when USFS *requires* and accepts a plan of operations. As with the BLM process, because there is no notice requirement until the federal government is involved, Tribes are generally only made aware of the project after a complete plan of operations has been submitted. Longer (and more consistent) review periods for both notices and plans of operation could help alleviate permitting bottlenecks later in the process and increase community engagement from the beginning.

Similar to BLM, USFS can require additional mitigation measures under 36 C.F.R. § 228. Section 228.7 allows USFS to issue a notice of noncompliance should the operator fail to comply with its operating plan or other applicable regulations.[134] If the operator does not resolve its violation, USFS may pursue civil action, but, like BLM, has not yet pointed to any statutory authority to unilaterally impose civil or administrative monetary penalties.[135]

Both agencies conduct regular inspections at permitted mining and exploration sites. BLM's policies mandate annual inspection of notice-level activities, and even higher frequency inspections for plan-level and leachate operations.[136] To meet their Tribal consultation requirements under Section 106

129. *Id.* § 3715.0-1(a) (emphasis added).
130. *Id.* § 3715.7-1(a). Under Subpart 3715, BLM has so far issued 12 immediate suspension and 10 cessation orders. Interagency Working Group Report, *supra* note 9, at 32.
131. Interagency Working Group Report, *supra* note 9, at 32.
132. *Id.* at 45.
133. *Id.*
134. *Id.* at 32 (the operator has the opportunity to appeal the notice).
135. *Id.*
136. Interagency Working Group Report, *supra* note 9, at 30–31; 43 C.F.R. § 3802.4-6 (2025) (BLM regulations); 36 C.F.R. § 228.7(a) (2025) (USFS regulations).

of the National Historic Preservation Act (NHPA), BLM and USFS consult affected Tribes once they request and receive a mine plan of operations.

3. Unnecessary or Undue Degradation (UUD)

FLPMA § 302(b) amends the Mining Law to provide: "In managing the public lands the Secretary shall, by regulation or otherwise, take any action necessary to prevent *unnecessary or undue degradation* of the lands."[137] FLPMA does not define unnecessary or undue degradation (UUD), instead delegating the authority to define the term to the Secretary of Interior.[138] BLM has assumed the responsibility to implement regulations comporting with this requirement. In 1980, four years after Congress enacted FLPMA, BLM finalized the first regulations affecting surface disturbance activities resulting from mining operations.[139] The 1980 Regulations were relatively barebones, with BLM acknowledging that they will require additional iterations for BLM to remain responsive to emerging mining issues and threats of environmental degradation.[140] The 1980 Regulations defined UUD as being:

(1) "surface disturbance greater than what would normally result when an activity is being" conducted by "a prudent operator in usual, customary, and proficient operations";

(2) "[f]ailure to comply with applicable environmental protection statutes and regulations thereunder"; and

(3) "[f]ailure to initiate and complete reasonable mitigation measures, including reclamation of disturbed areas or creation of a nuisance."[141]

This definition interpreted UUD as ordinary compliance with applicable federal and state environmental laws and regulations, not one that imposed additional restrictions on mining operations (beyond BLM's performance standards discussed in Section III *supra*).[142] It was clear from the start that the 1980 Regulations provided insufficient safeguards against environmental harms from mining operations. In the late 1980s, as a result of several published Government Accountability Office (GAO) reports describing the reality of site reclamation deficiencies, the BLM established a task force to address

137. 43 U.S.C. § 1732(b) (2025) (emphasis added).
138. *Id.*
139. 45 Fed. Reg. 78902 (Nov. 26, 1980) (codified at 43 C.F.R. § 3809.0-5k (1999); *see also* Darin, *supra* note 85, at 313.
140. Darin, *supra* note 85, at 310.
141. 45 Fed. Reg. 78902, 78910 (Nov. 26, 1980) (italics added).
142. Kalen, *Mining Law for the New Millennium*, *supra* note 28, at 391.

hardrock mining reform.[143] BLM sought to amend the regulations but put the rulemaking on hold due to calls for legislative reform to the Mining Law in Congress, willing to hold off in the event Congress stepped up and fixed the outdated Mining Law.[144]

However, with no congressional action in sight, in 1997, Interior Secretary Bruce Babbitt sought to take the lead in correcting "the remaining shortcomings of the 3809 regulations" and bolster environmental protection standards under FLPMA.[145] While BLM did finalize a rule amending financial guarantee requirements to support more thorough reclamation efforts, the rule was vacated and remanded in *Northwest Mining Association v. Babbitt* on procedural grounds.[146] After the rule was vacated, on remand, Secretary Babbitt aimed to require that mining claimants make financial guarantees towards reclamation activities, modernize the applicable environmental controls, and strengthen the process for greater public involvement.[147] During the notice and comment period, in 1998, Congress commissioned the National Academy of Sciences (NAS) to review the existing 3809 regulations and then-current state and federal regulation of hardrock mining on federal lands and propose changes, without acknowledgment of Interior's proposed amendments.[148] Congress prohibited BLM from promulgating a new rule until after the NAS report was published.[149] The NAS findings were completed in October 1999 and called for stronger environmental protection, including (1) stronger reclamation

143. The report findings concluded that, of approximately 280,000 unreclaimed and abandoned acres, nearly 25,000 acres were "littered with mine waste and harmful materials" and nearly 75,000 acres were "left exposed, creating erosion, landslide and water runoff problems." Darin, *supra* note 85, at 317–18.

144. *Id.* at 310; Mining Laws, 64 Fed. Reg. 6422, 6423 (Feb. 9, 1999) (explaining that the 1980 regulations were a "first attempt at regulating mining activities on public lands" and that BLM "pledged to reassess the regulations and amend them . . . as necessary to ensure that they protect public lands from unnecessary or undue degradation.")

145. "3809 regulations" refer to BLM regulations that spell out the UUD standard. Mining Laws, 64 Fed. Reg. at 6422, 6424 (Feb. 9, 1999) (rejecting the contention that rulemaking is no longer necessary due to improvement of state regulation of locatable minerals mining and concluding that BLM's regulations are inadequate); *see also* Kalen, *Mining Law for the New Millennium*, *supra* note 28, at 390.

146. The rule was initially proposed in 1991, six years before it was finalized. *See generally* Nw. Mining Ass'n v. Babbit F. Supp.2d 5 F. Supp.2d 9 (D.D.C. 1998) (granting summary judgment to the plaintiff association and holding that BLM violated the Regulatory Flexibility Act by using an incorrect definition of a "small entity" in the final rule, leaving open the question of whether the final rule was a "logical outgrowth" of the proposed rule as required by the APA); *see also* Mining Laws, 64 Fed. Reg. 6422, 6424 (Feb. 9, 1999).

147. *See generally Mining Claims under the General Mining Laws*, 65 Fed. Reg. 69998 (Nov. 21, 2000).

148. Darin, *supra* note 85, at 332; 1998 Omnibus Consolidated and Emergency Supplemental Appropriations Act, Pub. L. No. 105-277, § 120(a), 112 Stat. 2681(1998); *see also* Min. Pol'y Ctr. v. Norton, 292 F.Supp.2d 30, 34 (D.D.C. 2003) (summarizing the timeline of the proposals and relevant Congressional action).

149. 1998 Omnibus Consolidated and Emergency Supplemental Appropriations Act § 120(d).

bonding for all activities beyond casual use, (2) requiring plans of operations for all activities beyond exploration, (3) giving BLM administrative penalty enforcement authority, and (4) establishing performance-based, rather than design-based, standards.[150]

In 1999, once NAS published its findings and BLM was free to act, Interior Solicitor John Leshy issued a memorandum supporting a more robust UUD definition.[151] One year later, BLM promulgated a rule that replaced the "prudent operator" standard with a new and more restrictive UUD standard—activities that cause "substantial irreparable harm" (SIH) to public lands would cause "unnecessary or undue degradation" (with a focus on "undue") and should therefore not move forward.[152] In 2001, the Interior Solicitor of the newly elected Bush administration issued an opinion that "effectively ordered the repeal of the 2000 regulations," reinstating the status quo requirement of ordinary compliance with existing regulations and the "prudent operator" standard of the 1980 Regulations.[153] The Interior Solicitor explained that the SIH standard would be difficult to implement and enforce because it is "potentially subjective."[154]

The Solicitor also listed practical concerns: the SIH standard would be expensive for BLM to administer and for industry to comply with.[155] In *Mineral Policy Center v. Norton*, environmental groups challenged "Interior's decision to rescind a validly-issued rule and replace it with the 2001 Regulations."[156] The plaintiffs chiefly argued that the 2001 Regulations failed to meet BLM's statutory mandate to prevent UUD of the public lands, because the regulations only prevent operations that are "unnecessary" for mining, rendering "undue" superfluous in the statute.[157] While the district court upheld the 2001 Regulations, it found that "the Solicitor misconstrued the clear mandate of FLPMA. FLPMA, by its plain terms, vests the Secretary of the Interior with the authority—*and indeed the obligation*—to disapprove of an otherwise

150. Darin, *supra* note 85, at 333–34.

151. Dep't of Interior, Regulation of Hardrock Mining, M-36999 (Dec. 27, 1999), https://perma.cc/FF38-J99B.

152. BLM stated it would deny a plan of operations if the plan would result in substantial irreparable harm. Mark Squillace, *Rethinking Public Land Use Planning*, 43 Harv. Envtl. L. Rev. 415, 430 (2019); Mining Claims Under the General Mining Laws; Surface Management, 65 Fed. Reg. 69998, 70020 (Nov. 21, 2000) (preventing operations that would "result in substantial irreparable harm to significant scientific, cultural, or environmental resource values of the public lands that cannot be effectively mitigated.")

153. *See* Mining Claims Under the General Mining Laws; Surface Management, 66 Fed. Reg. 16,162 (Mar. 23, 2001); *see also* Squillace, *Rethinking Public Land Use Planning*, *supra* note 152, at 430.

154. Mining Claims Under the General Mining Laws; Surface Management, 66 Fed. Reg. 54,834, 54,846 (Oct. 30, 2001), https://perma.cc/L2QW-2A5C.

155. *Id.*

156. 292 F.Supp.2d 30, 37 (D.D.C. 2003).

157. *Id.* at 40.

permissible mining operation because the operation, though necessary for mining, would unduly harm or degrade the public land."[158] The district court went on to apply *Chevron* deference to Interior's actions—after determining that the terms "unnecessary" and "undue" are ambiguous, the court considered whether Interior's explanation was reasonable.[159] Interior argued that it will (1) use its discretionary authority to ensure lands are not subject to UUD; (2) regulate in response to notice-level activities; (3) require financial guarantees; and (4) link performance standards to those of existing laws and regulations, like the ESA, the CWA, and CERCLA.[160] The court held that this explanation is indeed reasonable and the 2001 Regulations "are neither 'procedurally defective' nor 'arbitrary or capricious in substance,' nor 'manifestly contrary' to the FLPMA" and so "must be accorded due deference."[161] In footnote 18, the court elaborated that, while the Solicitor's "(erroneous) opinion concerning the illegality of the SIH standard" makes the question of whether Interior acted contrary to its authority "extremely close," it cannot be said that the 2001 Regulations were based *primarily* upon the Solicitor's opinion and the purported illegality of the SIH standard.[162] The court found the 2001 Regulations to be promulgated as a result of Interior's exercise of its own judgment, "not merely because, based on the Solicitor's opinion, it believed it 'had no choice.'"[163]

As explained earlier in this Section, for "notice-level activities," BLM requires the operator to submit a notice to the local BLM office before beginning activity.[164] The notice contains operator information, measures to prevent UUD, a reclamation plan, and a reclamation cost estimate.[165] As long as BLM determines that the proposed activities will not cause UUD, the operator may commence activities. Because Tribal consultation requirements are not triggered during the notice review process,[166] Tribes are unlikely to know about notice-level activities until after they have begun. Tribes have advocated for

158. *Id.* at 42 (emphasis added). In his legal memorandum, Solicitor Meyers determined that the 2000 Regulations' SIH standard could not be sustained and concluded that "relevant legal authorities require removal of the 'substantial irreparable harm' criterion from both the definition of 'unnecessary or undue degradation' in § 3809.5 and the list of reasons why BLM may disapprove a plan of operations in § 3809.411(d)(3)(iii) of the 2000 regulations." *Id.* at 41–42.

159. *Id.* at 44–45 ("Consequently, the court must determine, not whether the 2001 Regulations represent the best interpretation of the FLPMA, but whether they represent a reasonable one.").

160. *Min. Pol'y Ctr.*, 292 F.Supp.2d at 42.

161. *Id.* at 44–46.

162. *Id.* at 44, n.18.

163. *Id.*

164. For an explanation of the threshold's arbitrariness and the resulting environmental impacts from mining operations below the threshold *see* Darin, *supra* note 85, at 335.

165. 43 C.F.R. § 3809.301 (2025).

166. Interagency Working Group Report, *supra* note 9, at 44.

the elimination of notice-level activities to address this concern, but so far, the framework remains unchanged.

Tribes have consistently expressed dissatisfaction with the current UUD definition, arguing that it must be strengthened to adequately protect public lands. In a 2021 Rulemaking Petition to DOI, forty Tribes, Indigenous organizations, and conservation groups called for updated hardrock mining regulations to make the regime more structurally equitable, culturally sensitive, and sustainable.[167] The petitioners contended that "BLM's existing hardrock mining rules perpetuate inequities while failing to adequately protect tribal resources and other natural resources."[168] Among many demands, the petitioners specifically requested DOI to "[s]trengthen the definition of unnecessary or undue degradation to ensure better protection of important environmental, scientific, historical, cultural, or other public resources."[169] Instead of keeping the status quo definition, petitioners requested that BLM reinstate the substantial irreparable harm standard; where mining operations would cause SIH, BLM should deny the plan of operations.[170]

Separately, in their report, the IWG suggested that BLM and USFS "update their regulatory definitions and standards . . . to include additional specifications *as to what qualifies as UUD* or significant disturbances."[171] This recommendation, while not going as far as recommending an SIH standard, addresses the criticism that current performance standards are too vague and create uncertainty around when BLM will deny a plan based on UUD.

The IWG recommends that companies should be required to provide exploration data to the USGS and to state geological surveys, subject to proprietary protections, to support more effective land management planning.[172]

G. Other Applicable Statutes[173]

There are several other mining-related legacy statutes that inform the current hardrock mining landscape and deserve mention. These include the 1947 Mineral Leasing Act for Acquired Lands,[174] the 1954 Multiple Mineral

167. *See generally* DOI Petition, *supra* note 17.
168. *Id.* at 6.
169. *Id.*, Attachment 1, Executive Summary, at 1.
170. *Id.*, Attachment 3, at 2.
171. Interagency Working Group Report, *supra* note 9, at 127 (emphasis added).
172. *Id.* at 137–38.
173. While the Surface Mining Control and Reclamation Act of 1977 established certain environmental standards like reclamation procedures for coal extraction, the standards do not affect hardrock minerals mining. Darin, *supra* note 85, at 311.
174. Applied a leasing program to resources that would have otherwise been locatable if the lands passed into federal ownership. *See* Kalen, *Mining Our Future Critical Minerals, supra* note 1, at 11012.

Development Act,[175] the National Materials Policy Act of 1970,[176] the National Materials Act of 1980,[177] and the National Critical Minerals Act of 1984.[178] While the Mining Law, FLPMA, and the 1920 Mineral Leasing Act are by far the most significant pieces of governing legislation, these other statutes carry important lessons about attempted reforms.

IV. Mining Priorities During the Biden Administration (2021-2025)

A. Interagency Working Group Recommendations for Improved Mining Policies Generally

In 2022, the Biden Administration formed an interagency working group (IWG), pursuant to EO 14017, *America's Supply Chains*, issued on February 24, 2021.[179] The IWG's final report, issued in September 2023, proposed a series of recommendations to reform the Mining Law and the current hardrock mining system. First, the report detailed the numerous issues currently plaguing the domestic mining process, including the length of permitting approvals. The report determined that "from the first appearance of the example in BLM's records to the authorization of ground disturbing activities . . . the average time was 4.6 years."[180]

The IWG proposed a series of reforms to improve challenges with permitting, agency coordination, access to information, public engagement, and other issues that would strengthen the domestic critical mineral supply chain. Some of these recommendations are highlighted in other areas of this report. On the agency coordination front, the IWG recommends that BLM and USFS harmonize their disjointed regulations.[181] As mentioned, the USFS has not updated its mining regulations since 1974, and much has changed in both the legal landscape and the mining industry since (including the enactment

175. Fostered the principle of "multiple use," later incorporated into FLPMA. *Id.* at 11013–15.

176. This was an attempt to enhance environmental quality and conserve materials. However, it failed to create a coherent national minerals policy. *Id.* at 11013–14.

177. The Act declared that it would be "the continuing policy of the United States to promote an adequate and stable supply of materials necessary to maintain national security, economic well-being . . . with appropriate attention to the long-term balance between resource production, energy use, a healthy environment, natural resources conservation, and social needs." Pub. L. No. 96-479, 94 Stat. 2305-06 (1980). However, it too failed to create a coherent national minerals policy. Kalen, *Mining Our Future Critical Minerals, supra* note 1, at 11014.

178. Established a National Critical Minerals Council, which was responsible for coordinating critical minerals policies and research and bolstering research and development (R&D) efforts. Kalen, *Mining Our Future Critical Minerals, supra* note 1, at 11014.

179. *See* Exec. Order 14,017, 86 Fed. Reg. 11,849 (Feb. 24, 2021).

180. Interagency Working Group Report, *supra* note 9, at 53.

181. *Id.* at 108.

of FLPMA). Consistency will help ensure claimants are providing adequate information in exploration plans, mine plans of operation, and related permit applications and NEPA submissions.[182]

B. Interagency Working Group Recommendations for Improved Tribal Relations

The IWG then spelled out several key recommendations that would impact Tribal voices and involve executive or congressional action. These include (1) withdrawing sensitive lands from availability for mineral development except when a mineral claimant agrees to adopt certain measures to avoid, minimize, and mitigate adverse impacts; (2) increasing stakeholder engagement and *potentially* affected communities, including Tribes; and (3) increasing monitoring of mining projects, including cumulative impacts and risks of mining to the environment and human rights, including gender-based impacts.[183]

As discussed *earlier*, the IWG identified the lack of early consultation as a major challenge for current and future mining operations and formulated a concrete vision of what "meaningful" Tribal engagement should entail.[184] In short, the IWG recommends legislative action to establish a "clear legal standard for consultation on all infrastructure projects," codify the guidelines set out in E.O. 13175, the Presidential Memorandum on *Uniform Standard for Tribal Consultation*, and DOI's Tribal Consultation policy.[185] While the IWG supports legislation that would include "consensual mechanisms" for developing regulations and agency actions impacting Tribes, it stops short of recommending an FPIC requirement for any proposed mining operations.[186] The IWG suggests that agency personnel require more robust training than what is currently provided to implement Tribal consultation policies according to understood best practices.[187] Updating existing guidance relating to individual Tribes' cultural resources can help to increase awareness of Tribal Nation diversity among agency staff, encouraging staff to adopt tailored responses depending on the Tribe with whom they are consulting.[188]

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182. *Id*.
183. *Id.* at 96–140 (Part XII, Recommendations Section).
184. *Id.* at 8 (underscoring that "[f]or Tribal engagement efforts to be meaningful, those efforts must occur much earlier, ideally before mining interests expend significant resources on exploration, and then continue through the entire exploration and mine development process.").
185. *Id.* at 119.
186. Interagency Working Group Report, *supra* note 9, at 119.
187. *Id.* at 120.
188. This guidance would be in the form of either a general statement of policy or a regulation enacted through the informal rulemaking process pursuant to NHPA authority. *See id.* at 120–21.

The IWG also believes that creating "statutory incentives" to obtain Tribal consent before exploration activities could better safeguard cultural sites.[189] However, the report does not detail the nature of these incentives.

In conjunction with harmonizing agency policies, the IWG suggested that the agencies further limit activities that qualify as notice-level activities. More specifically, IWG recommended that BLM and USFS require exploration plans or even plans of operations for activities that impact Tribes, Tribes' reserved rights, and sites listed under the NHPA, irrespective of the activity's geographic coverage.[190] Such a regulatory change would increase the number of mining activities that require agency approval and consequently are subject to NEPA and NHPA analyses.

Notably, Tribes often lack the financial resources to ramp up their engagement with the regulatory process for mining and other industrial activities by which they will be affected, even if policies change to enable greater Tribal involvement. In response to this challenge, the IWG recommended that the U.S. government appropriate adequate funding to strengthen Tribes' capacity to participate.[191] However, "[d]irect government or proponent assistance to Tribes to cover consultation or technical review costs is only a start."[192] Encouraging the establishment and involvement of Tribal-led organizations to negotiate equity stakes in mining projects can secure longer-term financial benefits for affected Tribes.[193] These partnerships would go beyond what is currently being offered to Tribes through CBAs.[194]

For more effective public engagement, the IWG recommended making notice-level activities more accessible to the public.[195] Upon receiving an exploration notice, BLM should automatically notify potentially impacted Tribes and communities to allow for comment and mitigation development.[196] BLM and USFS should also implement measures that would ensure any information Tribes provide in response can be protected and will remain confidential.[197] In terms of reclamation, the appropriate agency should include Tribes in discussions about

189. *Id.* at 121.
190. *Id.* at 122.
191. The Report points to Canada's Indigenous Natural Resource Partnerships Program as a model for Congress to emulate. The model is discussed in greater detail in Section VIII *infra*. *See id.* at 124.
192. Interagency Working Group Report, *supra* note 9, at 125.
193. The FNMPC in Canada is a potential model for what these organizations could look like. Current organizations in the U.S. that could be scaled include the First Nations Development Institute, the Tribal Lands Assistance Center, and the MICA Group. *See id.* at 125.
194. While the State of Alaska is unique in its treatment of Alaska Natives, Section VII *infra* explores a case study where a Native corporation negotiated a long-term CBA for the Red Dog Mine.
195. *Id.* at 118.
196. *Id.*
197. *Id.* at 122.

desired post-mining land uses and allow Tribes to help design reclamation plans and determine associated financial assurance amounts.[198]

The IWG further encouraged agencies to prioritize projects that have developed robust local support.[199] Given the industry's eagerness to operate new mines and the Trump Administration's national security concerns, prioritizing projects with public support (or at least limited discontent, if any) can reduce permitting delays due to potential project complexity or litigation initiated by Tribes or other affected community members in effort to block the mine in question.

C. Progress on Tribal Consultation Efforts

During his term, President Biden built upon existing executive orders and presidential directives by publishing two Presidential Memoranda: *Tribal Consultation and Strengthening Nation-to-Nation Relationships* on January 26, 2021, and *Uniform Standards for Tribal Consultation* on November 30, 2022.[200] The former required agencies to submit detailed action plans to implement EO 13175 and fulfill the U.S.'s broader commitment to "regular, meaningful, and robust consultation with Tribal Nations."[201] The latter aimed to establish uniform minimum Tribal consultation standards to be implemented across all agencies to ensure more consistency in how agencies approach consultations.[202] These minimum standards encourage agencies to maintain a record of the consultation. The record must incorporate "a general explanation of how Tribal input influenced or was incorporated into the agency action; and, if relevant, the general reasoning for why Tribal suggestions were not incorporated into the agency action or why consensus could not be attained."[203] While agencies did publish their implementation plans in accordance with the memoranda, President Trump has since rolled back these guidance documents. To prevent further backsliding, Tribes have suggested codifying consultation obligations, both through agency regulations and legislation.[204]

198. *Id.* at 123.

199. Interagency Working Group Report, *supra* note 9, at 110–11.

200. Pres. Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships, 86 Fed. Reg. 7,491 (Jan. 26, 2021); Pres. Memorandum on Uniform Standards for Tribal Consultation, 87 Fed. Reg. 74,479 (Nov. 30, 2022) (building on Exec. Order 13,175, Consultation and Coordination with Indian Tribal Governments, 65 Fed. Reg. 67249 (Nov. 6, 2000)).

201. Pres. Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships, *supra* note 200; Interagency Working Group Report, *supra* note 9, at 71.

202. *See generally* Pres. Memorandum on Uniform Standards for Tribal Consultation, *supra* note 200.

203. *Id.* § 7, at 74,481.

204. Interagency Working Group Report, *supra* note 9, at 72. Bills to reform the Mining Law have also included more specific Tribal consultation procedures. *See, e.g.,* H.R. 7580, 117th Cong. (2022).

V. Mining Priorities During the Second Trump Administration (2025-Present)

Like his first term, President Trump has started his second term by embracing protectionism and distrust of free trade principles. While this article will not detail the geopolitical turmoil resulting from Trump's imposition of import tariffs, withdrawal of global development assistance, threatened withdrawal of funding from UN agencies, and other economic threats, this background is necessary to understand the additional pressure these policies add to the existing critical minerals supply chain.

At time of writing, we are still in the early days of the Second Trump Administration, so much of the action regarding domestic mineral production has been presidential. Agency rules are yet to be finalized, and Congress is yet to pass any substantive legislative reform to the Mining Law.

A. Trump Executive Orders on Critical Minerals

On March 20, 2025, President Trump signed EO 14241, "Immediate Measures to Increase American Mineral Production," demanding "immediate action to facilitate domestic mineral production to the maximum possible extent."[205] Notably, the order applies beyond the traditional USGS list of critical minerals, including uranium, copper, potash, gold, and any other element as determined by the National Energy Dominance Council (NEDC) Chair.[206] Trump created the NEDC in February 2025 to "lower energy prices, meet the rising demand for affordable energy, strengthen economic security, and ensure the American energy industry is best positioned as a global leader."[207] A few weeks later, in EO 14261, Trump added coal to this list.[208] The EO calls for (1) each relevant agency to coordinate with the NEDC Chair on identifying priority projects for immediate approval; (2) the NEDC chair to issue a Request for Information (RFI) to solicit industry feedback on expediting production; (3) the NEDC Chair to submit recommendations to Congress to clarify the treatment of mine waste under the Mining Law (noting the *Rosemont* decision, discussed in Section VI *infra*); (4) acceleration of private and public capital investment into commercially viable domestic mineral production projects; (5) the waiver of various statutory requirements pursuant to the energy emergency declared in EO 14156; (6) the establishment of dedicated funding for domestic investments

205. Exec. Order No. 14,241, 90 Fed. Reg. 13673 § 1 (Mar. 20, 2025).
206. *Id.* § 2(a).
207. The White House, *National Energy Dominance Council Paves Way for Unleashing American Energy* (Feb. 19, 2025), https://perma.cc/4RPJ-2PQU.
208. Exec. Order No. 14,261, 90 Fed. Reg. 15,513 (Apr. 8, 2025).

to be executed by the Development Finance Corporation; and (7) the facilitation of offtake agreements.[209]

The EO fails to mention or encourage any substantive reform of the Mining Law (*Rosemont* challenge notwithstanding) and does not include any language identifying the need for domestic production for clean energy inputs.

On April 15, 2025, Trump issued EO 14272, titled "Ensuring National Security and Economic Resilience Through Section 232 Actions on Processed Critical Minerals and Derivative Products." This EO is more acutely focused on critical minerals, broadly defined as "essential raw materials and critical production inputs required for *economic and national security*."[210] The EO highlights the United States' vulnerability to volatile critical mineral supply chains due to a dependence on "a small number of foreign suppliers" and asserts critical minerals are "essential for national security because they are foundational to military infrastructure, *energy infrastructure*, and advanced defense systems."[211] This EO is more limited, applicable only to critical minerals as determined by the USGS pursuant to 30 U.S.C. § 1606 (the Energy Act of 2020) with the addition of uranium.[212] The EO also applies to rare earth elements, as identified by the Department of Energy.[213] The primary action the EO calls for is a Section 232 investigation under the Trade Expansion Act of 1962, where "the Secretary of Commerce shall initiate an investigation under section 232 to determine the effects on national security of imports of processed critical minerals and their derivative products" and submit a final report within 180 days of the EO's execution.[214] This move could lead to a further restriction of imports of processed critical minerals if found to potentially impair national security.

B. Other Significant Executive Actions

On April 30, 2025, the Trump administration signed an agreement with Ukraine that provides for revenue-sharing from the future extraction of Ukraine's mineral and energy resources. While the agreement, if considered to be a treaty, is of dubious validity under the Vienna Convention on the Law

209. *See generally* Exec. Order No. 14,241.

210. Exec. Order No. 14,272, 90 Fed. Reg. 16,437 (Apr. 15, 2025) (italics added). Please note that this broad definition is different from how I define "critical minerals" throughout this article.

211. *Id.* § 1 (emphasis added).

212. *Id.* § 2.

213. *Id.*

214. *Id.* § 3.

of Treaties,[215] scholars suggest it can be treated as a "sole executive agreement" and, if it stands, can be a source of future mineral access for the United States.[216]

While the focus of this article is on domestic mineral extraction and production, Trump has also taken executive action to expedite seabed mineral exploration in areas beyond national jurisdiction (e.g., the high seas), raising a host of problems under international law.[217] These actions collectively demonstrate an insistence on scaling mining and subsequent production using every possible avenue, with attention to speed, efficiency, and "national security" at the expense (or disregard) of environmental sensitivities, Tribal interests, and impacts on environmental justice communities. It is highly unlikely that the Trump Administration is heeding the IWG's recommendations while pushing these policies forward.

VI. Recent or Notable Judicial Decisions

Given the antiquated statutory framework governing the U.S. mining landscape, courts have played an outsized role in interpreting the statutes at issue in ways that keep the laws intact and generally coherent, while expounding on the statutory requirements. Moreover, because of a lack of substantive legal protections for Indigenous Peoples and impacted communities, Tribes and community members rely on several procedural statutes to delay or block approved mining projects. However, the IWG notes that these procedural protections "are [not] well suited to addressing the challenges posed by mining operations" because they do not guarantee (nor require) that agencies will incorporate Tribes' input in final agency decisions.[218] In this section, I outline notable decisions relevant to either U.S. mining law and/or obtaining a social license. First, I will review the pertinent procedural statutes and their key provisions before delving into the interpretive doctrine.

A. Important Statutes Extending Protections to Tribes

1. The National Environmental Policy Act of 1969 (NEPA)

NEPA requires federal agencies to produce an environmental impact statement "in every recommendation or report on proposals for legislation and

215. *See, e.g.*, Jeremy Pizzi & Maksym Vishchyk, *Negotiations at Gunpoint: Does U.S. Pressure on Ukraine for a Minerals Deal Amount to Unlawfully Procuring a Treaty by Use of Force?* Just Security (Apr. 17, 2025), https://perma.cc/D5YG-3SGY.

216. *See* Curtis A. Bradley et al., *The U.S.-Ukraine Agreement: Legality and Transparency*, Just Security (May 6, 2026), https://perma.cc/Z5EJ-4T2P.

217. *See, e.g.,* Coalter Lathrop, *The Latest Trump Threat to International Law: Unilaterally Mining the Area*, EJIL:Talk! (May 6, 2025), https://perma.cc/37DG-ZKSQ.

218. Interagency Working Group Report, *supra* note 9, at 70.

other major federal actions significantly affecting the quality of the human environment."[219] NEPA requires federal agencies to take a "hard look" at the potential environmental consequences of the proposed action. This includes considering detailed information concerning significant environmental impacts and making relevant information available to the public. Under NEPA, federal agencies are encouraged to consult with Tribes early in the planning process, and to invite Tribes to be cooperating agencies in preparing an EIS, when potential effects affect Tribal interests.[220]

2. The Endangered Species Act of 1973 (ESA)

The ESA establishes protections for fish, wildlife, and plants that are listed as threatened or endangered.[221] While the ESA is categorized as a substantive statute, with remedies available when a taking of an endangered or threatened species occurs without a permit, Tribes can also raise challenges against a project and invoke the ESA to protect their own interests in the land itself or block the operations should it prove difficult for the mining applicant to comply with the pertinent ESA provisions. Plaintiffs often contend agencies that approve the project (e.g., BLM/DOI) acted arbitrarily and capriciously when adhering to the Section 7 federal consultation requirements, or that the designated agency (typically the U.S. Fish and Wildlife Service) improperly designated the critical habitat or wrongly granted a permit.

3. The National Historic Preservation Act of 1966 (NHPA)

The NHPA is the basis for tribal consultation for the Section 106 review process. Section 106 requires federal agencies to consider the effects on historic properties by projects they carry out, license, or financially support.[222] The Advisory Council on Historic Preservation must have a "reasonable opportunity" to comment on these federal undertakings. The NHPA also requires federal agencies to consult with any Tribe that "attaches religious and cultural significance" to historic properties that may be affected by the agency's undertakings.[223] As noted earlier, the NHPA is merely procedural – it does not require a substantive change to the agency's decision when historic properties are negatively affected.

219. 42 U.S.C. § 4332(C).

220. Advisory Council on Historic Preservation, Consultation with Indian Tribes in the Section 106 Review Process 6 (2021), https://perma.cc/96AR-2TY7.

221. 16 U.S.C. §§ 1531–44.

222. *See* 54 U.S.C. § 306108; 36 C.F.R. part 800 (implementing regulations for § 106).

223. 54 U.S.C. § 302706 (b).

4. The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA)

Section 3(c) of NAGPRA requires federal land-managing agencies to consult with federally recognized Indian Tribes prior to the intentional removal of native human remains and other defined cultural items from federal lands.[224] On reservations, planned excavation requires Tribal consent.[225]

B. Notable Mining Law Decisions

1. The Ninth Circuit's Rosemont Decision (2022)

One of the most impactful recent mining decisions concerns the Rosemont copper mine, where several parties brought legal challenges to the Forest Service's decision to approve Hudbay Minerals Inc.'s mining plan to extract copper from the Coronado National Forest in Arizona.[226] In 2022, the Ninth Circuit interpreted the Mining Law to say that, under the location system, mining claimants cannot occupy federal land solely for the purpose of depositing mining waste.[227] The issue presented on appeal was whether the Rosemont copper mine, initially proposed in 2007, could deposit waste on a "separate lode mining claim" the company had asserted pursuant to the Mining Law. The Ninth Circuit rejected the separate lode mining claim as the basis for disposal of mining waste, instead determining that mill site claims were more appropriate means for establishing a mining waste disposal under the Mining Law.[228] The court rejected the government's argument that "Section 22 of the Mining Law gives Rosemont the right to occupy 'open' Forest Service land with its waste rock, whether or not it has valid mining claims on the land," and that the occupation would not be permanent in nature. The court disagreed on both claims, holding that the Mining Law addresses "the very problem that Rosemont faces."[229]

Stakeholder responses to *Rosemont* have varied. While environmental organizations applaud the decision as protecting the environment, local communities, and sensitive Tribal sites by limiting the land available for private mining claimants, the mining industry worries this will only exacerbate delays

224. 25 U.S.C. §§ 3002(c).

225. 43 C.F.R. § 10.3 (2024); Consultation with Indian Tribes in the Section 106 Review Process, *supra* note 220, at 5.

226. Ctr. for Biological Diversity v. U.S. Fish & Wildlife Serv., 409 F. Supp. 3d 738, 742–44 (D. Ariz. 2019), *aff'd*, 33 F. 4th 1202 (9th Cir. 2022) [hereinafter *Rosemont*].

227. *Id.* at 748.

228. *Ctr. for Biological Diversity*, 33 F.4th at 1217.

229. *Id.*

in permitting and incentivize investment in foreign mining operations.[230] The IWG largely refrained from commenting on the decision.[231]

2. Great Basin Resource Watch, Nevada District Court (2023)

In *Great Basin Resource Watch v. U.S. Dep't of Interior*, the Nevada district court reaffirmed *Rosemont*, finding that the BLM could not "occupy" land qualifying for protection under a 1926 executive order (PWR 107) solely by dumping waste rock on it without the tandem discovery of molybdenite ore or any other metalliferous minerals. Because there was no evidence that the springs and surrounding lands under PWR 107's protection contained molybdenite ore, the mining company's patent was held invalid.

3. Bartell Ranch LLC, Nevada District Court (2023)

In *Bartell Ranch LLC v. McCullough*, the Nevada district court issued a ruling against Tribal plaintiffs in a challenge to BLM's approval of the Thacker Pass Lithium Mine Project that intends to cover nearly 133,000 acres.[232] At the time of suit, Lithium Nevada (a subsidiary of Lithium Americas) had already commenced construction and anticipated operations to begin in 2026.[233] The project relies heavily on U.S. government funding, supported by a $2.26 billion loan from the DOE.[234] In its ruling, the district court re-affirmed earlier holdings that plaintiffs cannot assert the interests of other Tribes who were consulted on the challenged project to support their arguments. The district court also stated that it will not consider documents that post-date the Record of Decision (ROD) when hearing NEPA and/or NHPA challenges. Finally, the court rejected plaintiffs' claims of inadequate notice, determining that publication in the Federal Register provides sufficient notice to all interested or affected persons.[235] On appeal, the Ninth Circuit held that BLM was not arbitrary or capricious in complying with FLPMA's mandate "to prevent unnecessary or

230. *See* Emma Kaboli & Adam Vann, The U.S. Mining Industry and the *Rosemont* Decision 11 (Cong. Rsch Serv. 2024).

231. Interagency Working Group Report, *supra* note 9, at 38 ("The IWG believes these kinds of disputes highlight some of the difficulties in relying on a 150-year-old access law for modern mining operations. Congressional action on these questions would be helpful.")

232. 2023 U.S. Dist. LEXIS 19280 (D. Nev. 2023), *aff'd,* W. Watersheds Project v. McCullough, 2023 U.S. App. LEXIS 18063 (9th Cir. 2023); *see also* Thacker Pass Report, *supra* note 27, at 3 (describing the Thacker Pass mine).

233. Thacker Pass Report, *supra* note 27, at 45.

234. Lithium Americas, *Lithium Americas Receives Conditional Commitment for $2.26 Billion ATVM Loan from the U.S. DOE for Construction of Thacker Pass* (March 14, 2024), https://perma.cc/8L42-LHUC.

235. Compare discussion in Sections III and IV, *supra,* about notice requirements to Tribes.

undue degradation of the lands."[236] In approving the project, BLM instructed Lithium Nevada to comply with applicable state water quality standards and undertake continuous monitoring and reporting. While plaintiffs claimed the project would harm the local sage-grouse population, the court deemed any harm to the population to be permissible because the species is not listed as threatened or endangered, with FLPMA not imposing any additional requirements.[237] The Ninth Circuit also affirmed the district court's NEPA and NHPA holdings.[238]

The implications of this holding for Lithium Nevada's SLO are far-reaching. First, the litigation arose because the Burns-Paiute people and other tribes that have connections to the land at Thacker Pass did not support the mining operations. Lithium Nevada did not do enough to assure the Tribes that the company would mitigate impacts of the project and would safeguard natural resources integral to the Tribes' identities and livelihoods. After this ruling, in a factfinding report, Human Rights Watch (HRW) and the American Civil Liberties Union (ACLU) deemed BLM's approval of the Thacker Pass mine to violate the principle of Free, Prior, and Informed Consent (FPIC), a safeguard touted under international human rights standards and discussed in Section III *supra*.[239] Lithium Nevada, for its part, maintained that it bore no FPIC mandate to its consultations with the tribes because FPIC only applies to government-to-government consultations.[240] While the Nevada district court deemed BLM to have met the consultation requirement under the NHPA despite BLM never receiving a response from the "consulted" Tribes, the ACLU and HRW found that BLM's correspondence was sent during the height of the COVID-19 pandemic, during which Tribal offices were closed.[241] There was no in-person outreach.[242] Moreover, before approving the loan, DOE requested the Advisory Council on Historic Preservation (ACHP) to advise on whether the project would create an "adverse effect" under the NHPA.[243] Even though the ACHP criticized DOE's lack of Tribal consultation, the DOE issued a letter declaring it would not follow ACHP's advice and would defer to BLM and its consultation obligations.[244] DOE approved the loan. The court further ruled that NHPA consultation requirements only apply to federally incorporated Tribes; thus, BLM did not have to consult the People of Red Mountain (PRM), an

236. *W. Watersheds*, 2023 U.S. App. LEXIS at 6; 43 U.S.C. § 1732(b). The court made this determination despite the grievances raised by plaintiffs and the cumulative impacts on the area from existing mining operations, as discussed *infra*.
237. *W. Watersheds*, 2023 U.S. App. LEXIS at 6.
238. *Id.* at 6–8.
239. Thacker Pass Report, *supra* note 27, at 97.
240. *Id.* at 11.
241. *Id.* at 7. *See generally Bartell Ranch v. McCullough*, 2023 U.S. Dist. LEXIS 19280, 2 (D. Nev. 2023).
242. Thacker Pass Report, *supra* note 27, at 7.
243. *Id.* at 57.
244. *Id.* at 58.

Indigenous organization seeking to protect ancestral land from mining impacts, nor could PRM formally join the lawsuit.[245]

The report further found that Lithium Nevada planned to move forward with the mine "despite opposition from at least five Tribal governments," since the "litigation has resolved this opposition."[246] After litigation, Lithium Nevada signed a CBA with the Fort McDermitt Paiute and Shoshone Tribe (FMPST), a federally recognized Tribe headquartered in McDermitt, Nevada.[247] The FMPST reservation is approximately 30 miles from the Thacker Pass mine site.[248] The Tribal Council signed the agreement in October 2022, nearly two years after the mine had already received permitting approval.[249] Prior to signing, the FMPST Tribal Council criticized the Historic Properties Treatment Plan (HPTP), contending that BLM developed the plan without Tribal input. In response to an HRW information request, Lithium Americas stated that they were "not aware of any evidence" the FMPST opposed the HPTP.[250] Only after the Ninth Circuit ruled in favor of BLM and Lithium Nevada did the FMPST Tribal leadership sign the CBA which is sealed and cannot be publicly disclosed.[251] However, Lithium Americas shared that the CBA was finalized after 20 meetings with Tribal leadership and includes infrastructure improvements, additional job training and employment for tribal members, support for cultural education, and a $5 million community center with a preschool, daycare, and a playground, a greenhouse for traditional food crops and medicinal plants, and revenue from seeds for reclamation projects.[252] At time of signing, the FMPST Chairperson stated that the CBA "cannot meet everyone's expectations" but does "best serve the interests of the Tribe."[253] This is language of compromise; the CBA did not fully extinguish Tribal concerns about the lithium mining operations — some FMPST members and PRM continue to oppose the mine. However, given the adverse litigation outcome, perhaps the Tribal Council felt the CBA was the last avenue available to protect at least some of their interests in ancestral lands and the properties impacted by the mine. Questions remain as to why Lithium Nevada only entered into a CBA with FMPST. Did they consider the FMPST to be most affected? To hoist the largest political capital? Did other Tribes either refuse to negotiate or fail to reach a satisfactory agreement? Answers remain unclear.

245. *Id*. at 62; *see also Motion on Preliminary Injunction* at 1, 5–6, *Bartell Ranch,* U.S. Dist. LEXIS (No. 3:21-cv-00080)(filed September 3, 2021), https://perma.cc/RY8V-XJSE.

246. Thacker Pass Report, *supra* note 27, at 5.

247. *Lithium Americas Signs Community Benefits Agreement with Fort McDermitt Paiute and Shoshone Tribe*, Lithium Americas (Oct. 20, 2022), https://perma.cc/6WCF-3CUE.

248. Thacker Pass Report, *supra* note 27, at 20.

249. *Id*. at 7.

250. *Id*. at 66–67.

251. *Id*.

252. *Id*. at 67–68.

253. Thacker Pass Report, *supra* note 27, at 67–68.

This narrative illustrates some of the challenges of promoting CBAs as the guarantee for mining SLOs. While I consider benefit-sharing agreements to be beneficial and one of the core tools for improving SLO, as discussed in Section VIII.B *infra*, it is critical that these agreements adhere to certain standards to mitigate unequal bargaining power between the parties and reduce the coercive effect of such proposals.

VII. Recommendations for Obtaining a Social License

This section considers legal avenues for reform that would strengthen the enabling environment to incentivize mining claimants to engage with Tribes much earlier and more meaningfully than many currently do. In addition to reforms to the federal permitting process, I argue that a more demanding UUD standard will safeguard Tribal interests in the absence of substantive legislative reform without sacrificing either predictability or permitting streamlining efforts. In the event regulatory reform does not occur, I consider how the U.S. government and mining companies operating in the U.S. can learn from Canada and Australia's benefit-sharing initiatives with Indigenous Peoples for mining projects. Overall, establishing an SLO can occur through the following three governmental actions: (1) investing in Tribal regional organizations to negotiate more equitable CBAs and partnership agreements; (2) strengthening the UUD basis for rejecting mining plans; and (3) promoting companies that have made significant efforts to comply with IRMA standards can push broader recognition of Tribal rights into the mainstream while attempting to repair centuries of harm and injustice.[254]

A. Permitting Reform

1. Recommended Permitting Reforms (Regulatory)

Aside from accelerating the permitting process, BLM and USFS should require pre-application meetings between the applicant and the relevant entities to ensure applicants are aware of the level of detail, depending on the complexity of the proposed operation, the agencies expect in the plan submissions.[255] States and Tribes should be encouraged to attend to share information and improve

254. Note that these actions are not exclusively within the government's authority. While only Congress or BLM (or the judiciary, by legislative fiat) can amend the UUD definition, industry can voluntarily revise their practices to conform to generally accepted best practices and promote more equitable CBAs. However, given the reality of the economic trade-offs and historical practices of industry, governmental action is likely necessary for meaningful reform.

255. Interagency Working Group Report, *supra* note 9, at 109.

identification of issues early in the process. This remedy is responsive to the GAO's findings that plan proposals are often vague and incomplete.

Other federal permitting regimes take operator compliance history into account, ensuring that operators do not have unremedied violations of environmental regulations.[256] When the Biden-Harris Administration's Interagency Working Group on Mining Laws, Regulations, and Permitting was soliciting feedback on its draft report to improve mining on public lands (cited throughout this article and discussed at length in Section IV *infra*), some commenters suggested that hardrock mining applicants should disclose any unresolved violations and, if they have not taken any corrective action, BLM should deny their permit application.[257] This would encourage industry actors to establish (or strengthen existing) substantive dialogue with Tribes harmed by ongoing violations, and could prompt corrective measures. Industry actors remain strongly opposed to such a system. Congressional action is likely needed to provide BLM and USFS with the statutory authorization to deny permits based on unremedied violations. However, as I argue in this Section, BLM already has the authority to re-interpret what constitutes "Unnecessary or Undue Degradation" (UUD) under the Federal Land Policy and Management Act to effectively deny permits to repeat violators.[258]

In addition to more robust use of permit denial authority, BLM could make compliance records of companies with significant involvement in the mining supply chain available to regulatory agencies, Tribal governments, and the general public. This transparency requirement can incentivize companies to implement best practices that allow them to maintain strong performance records.[259]

To improve agency coordination and accelerate administrative permitting, BLM and USFS should aim to include the EPA, Fish and Wildlife Service (FWS), U.S. Army Corps of Engineers (ACE), and Tribal governments in the drafting of technical studies and management plans to allow for early input on these documents.[260] Such coordination will streamline future inputs needed for the NEPA process and reduce gaps that occur due to siloed agency expertise. Coordination will be particularly helpful where applicants will need to obtain a Section 402 and/or a 404 permit under the Clean Water Act.[261] Given the increased uncertainty in what waters are jurisdictional after the Supreme

256. *See, e.g.*, the Applicant Violator System under the Surface Mining Control and Reclamation Act. 30 U.S.C. § 1260(c) (1987).

257. Interagency Working Group Report, *supra* note 9, at 60.

258. This determination can be folded in if re-instantiating the "substantial irreparable harm" standard to define UUD, though will likely face an onslaught of litigation challenges under the APA for arbitrary and capricious agency action.

259. Interagency Working Group Report, *supra* note 9, at 118.

260. *Id.* at 107.

261. These permits regulate effluent discharges into navigable waters from point sources and discharges of dredged and fill material into navigable waters, respectively. Morgan Pettit,

Court's decision in *Sackett v. EPA*, involving ACE and EPA early on can help reduce permitting confusion and subsequent delays that could result should the applicant fail to apply for a CWA permit.[262] In addition, responsible agencies should aim for greater permitting schedule transparency to remain accountable and provide more lead-time for public engagement.

2. Recommended Permitting Reforms (Legislative)

Congress could also act to direct BLM and USFS to prepare a programmatic, nationwide EIS to guide land management for mining. This can likely only be accomplished if Congress simultaneously establishes a leasing system for mining on public lands, insofar as mining is currently subject to the location-patent system stipulated by the 1872 Mining Law.[263] In the interim, BLM and USFS could place more weight on mineral potential reports and available data demonstrating development is not reasonably foreseeable when making withdrawal decisions from the lands available for mining claims under the Mining Law.[264]

B. Agency Re-Interpretation of Unnecessary or Undue Degradation

There have been many legal and scholarly debates about the meaning of the term.[265] Currently, BLM defines UUD as "conditions, activities, or practices" that:

> "(1) Fail to comply with one or more of the following: the performance standards in Sec 3809.420, the terms and conditions of an approved plan of operations, operations described in a complete notice, and other Federal and state laws related to environmental protection and protection of cultural resources;
>
> (2) Are not "reasonably incident" to prospecting, mining, or processing operations as defined in Sec. 3715.0-5 of this chapter; or
>
> (3) Fail to attain a stated level of protection or reclamation required by specific laws in areas such as the California Desert Conservation Area, Wild and Scenic Rivers, BLM-administered portions of the National Wilderness System, and BLM-administered National Monuments and National Conservation Areas."[266]

Sustainable Mining Challenges: Alaska Water Permitting and the Green Energy Transition, 40 Alaska L. Rev. 259, 273–74 (2023).

262. *See generally* Sackett v. EPA, 598 U.S. 651 (2023).

263. *But see* Interagency Working Group Report, *supra* note 9, at 100 (detailing the benefits of a programmatic EIS).

264. *Id.* at 102–03.

265. *See, e.g.*, Darin, *supra* note 85; *see also* Sandra B. Zellmer & Robert L. Glicksman, *A Critical 21st Century Role for Public Land Management: Conserving 30% of the Nation's Lands and Waters Beyond 2030*, 54 Ariz. St. L. J. 1313 (2022).

266. 43 C.F.R. § 3809.5.

As suggested by scholars, the "congressional mandate in FLPMA regarding environmental degradation is not a suggestion; rather, the statute clearly says 'shall.'"[267] In line with the proposed definition from the 2021 DOI Petition, the regulation should be revised to include that UUD also means activities that "[m]ay cause substantial irreparable harm to important environmental, scientific, historical, cultural, or other public resources."[268] This standard goes further than the SIH standard established by the 2000 Regulations by precluding activities that require long-term, perpetual treatment or mitigation, given the risks involved in such activities and the lasting consequences of abandoned hardrock mines in the U.S.[269] In the following paragraphs, I argue that SIH is not only reasonable but the best interpretation of FLPMA's UUD standard. In light of the Supreme Court's decision in *Loper Bright v. Raimondo*, the UUD definition finalized in the 2001 Regulations cannot stand if challenged.[270]

Mineral Policy Center was decided on *Chevron* grounds. The D.C. district court found that, although DOI's interpretation of a unitary UUD standard was incorrect, DOI's decision to amend the definition in the 2001 Regulations was reasonable because "unnecessary" and "undue" are ambiguous terms, and FLPMA leaves BLM a great deal of discretion in deciding how to achieve its objectives.[271] However, this reasoning is now on unstable footing, as recent Supreme Court jurisprudence has questioned whether large swaths of discretionary authority delegated to agencies are permissible on constitutional grounds.

Should the 2001 UUD standard yet again be challenged, analysis of the FLPMA provision and the relevant case law confirm a more sweeping understanding of UUD. First, the statutory text demonstrates that Congress intended UUD to create *additional* obligations on mining claimants, not merely to ensure adherence to existing laws.[272] Section 302(b) of FLPMA explicitly states that the last sentence of the paragraph introducing the UUD standard amends the Mining Law of 1872 and impairs the rights of locators under the Act.[273] Thus, interpreting UUD as something that does not create additional

267. Darin, *supra* note 85, at 334.

268. DOI Petition, *supra* note 17, Attachment 3, at 2.

269. Petitioners propose to include this clarification to what constitutes SIH by amending the definition of reclamation to say, "[t]he potential for post-operational reclamation, does not mean that the Operations do not cause irreparable or substantial harm to public land resources." *Id.* at 4.

270. *See* Loper Bright Enters. v. Raimondo, 603 U.S. 369 (2024) (holding that it is for the judiciary to decide "all relevant questions of law" and overturning *Chevron* deference previously accorded to the agencies when engaging in statutory interpretation).

271. *See* Min. Pol'y Ctr. v. Norton, 292 F.Supp.2d 3, 44–45 (D.D.C. 2003); *see also* Bd. of Cnty. Cmm'rs of Cty. of San Miguel v. U.S. Bureau of Land Mgmt., 2022 WL 472992, at *23 (D. Colo. 2022).

272. *See Min. Pol'y Ctr.*, 292 F.Supp.2d at 42–43; *see also* Ctr. for Biological Diversity v. Dep't of Interior, 623 F.3d 633, 644 (9th Cir. 2010) (stating that the duty to prevent UUD "supplements requirements imposed by other federal laws and by state law.").

273. 43 U.S.C. § 1732(b).

obligations cannot simultaneously amend existing law. The language "take any action necessary" affords significant discretion to the Secretary of the Interior to determine the scope of UUD. Constraining the language to existing federal and state protections would not only run counter to congressional intent to vest the Secretary with discretionary authority but would also leave the sentence devoid of any meaning.

In addition to the textual analysis of the phrase "take any action necessary," the phrase "unnecessary *or* undue degradation" itself conveys a vast understanding pursuant to the presumption against superfluity.[274] Current regulations improperly treat these terms as synonymous, despite DOI arguing that the 2001 regulations consider the terms to "overlap in many ways" but remain distinct.[275] As *Mineral Policy Center* affirms, a central tenet of statutory construction is that "a statute written in the disjunctive is generally construed as 'setting out separate and distinct alternatives.'"[276] Thus, BLM's definition of activities that cause UUD should go beyond those that are simply "unnecessary" and proscribe those that cause "undue" degradation, a more precautionary term.

The interpretation that UUD requires BLM to prevent SIH to public lands is consistent with FLPMA's purpose. In *Northwest Mining Ass'n*, the D.C. district court concluded that Congress incorporated the UUD provision to balance mineral production with "the need to manage the public lands 'in a manner that will protect the quality of scientific, scenic, historical, . . . [and] environmental" values.[277] While this purpose does not expressly favor the disjunctive approach, it also does not provide a reason to rebut the presumption against surplusage when reading the text of the statute.

Finally, it can be argued that, under *Loper* and *Heckler*, BLM's weak standard constitutes a total abdication of its statutory authority and thus cannot be the best interpretation of the statute.[278] While it is true that FLPMA delegates to BLM the power to decide what constitutes UUD, arguably, BLM's failure to prevent UUD since the implementation of the 2001 Regulations amounts to a failure to uphold its statutory duties.[279] This challenge also counsels against the current interpretation, focusing on the need to prevent "undue" degradation.

Finally, as discussed in Section IV *supra*, a revised UUD standard could include a determination that BLM must deny any new permit applications for mining claimants with unresolved violations of applicable statute and/or mitigation activities as required in their approved plans of operation. While

274. *See* Darin, *supra* note 85, at 336 ("The proposed regulations lump "unnecessary' and "undue' together, and do not recognize an important distinction. For example, while a mining plan of operations may cause 'necessary' degradation, it may nonetheless still be 'undue' in terms of other affected uses and the feasibility of adequate and full reclamation.").

275. *See Min. Pol'y Ctr.*, 292 F.Supp.2d at 44.

276. *Id.* at 42 (quoting United States v. Behnezhad, 907 F.2d 896, 898 (9th Cir. 1990)).

277. Nw. Mining Ass'n v. Babbit, 5 F.Supp.2d 9, 11 (D.D.C. 1998).

278. *See, e.g.*, Heckler v. Chaney, 470 U.S. 821 (1985).

279. *See* DOI Petition, *supra* note 17, Attachment 3, at 17.

this is more challenging to argue that such a mandatory requirement is the best interpretation of Section 302(b), BLM should of its own accord issue guidance that it plans to consider an operator's compliance history when exercising its discretion to deny operations based on threats of UUD.

One concern that arises with the broad discretion afforded by Section 302(b) is whether FLPMA violates the non-delegation doctrine.[280] Courts have reasoned that because UUD is a context-specific standard, it is committed to BLM's discretion on a case-by-case basis. However, upon judicial review, courts should be able to find FLPMA contains an intelligible principle—"take any action *necessary*"— that sufficiently limits the bounds within which BLM is to prevent UUD.

C. Community Benefit Agreements

In addition to the legal avenue for increasing safeguards against mining harms, companies and governments alike have implemented frameworks for obtaining consent from affected communities. These mechanisms primarily involve CBAs.[281] CBAs, as mentioned in the Introduction, are tools to enhance community participation and help to establish a SLO for both governments and industry players by outlining clear expectations and reducing risks of community backlash.[282] Agreements and funds are often negotiated before a mine is operational. CBAs include a range of benefits, such as payments, revenue-sharing, local hiring, education, community development projects, and/or environmental protection commitments.[283]

While many Tribes already receive benefits from mineral activities on their lands, from employment and revenue-sharing agreements, the U.S. has no national policy requiring CBAs, as some other jurisdictions do.[284] The Thacker Pass mine CBA is a notable example of an agreement executed in the U.S.,

280. *See, e.g.*, A.L.A. Schechter Poultry Corp. v. United States, 295 U.S. 495, 542 (1935) (holding the National Industrial Recovery Act unconstitutional because the authority Congress conferred to the Executive is "an unconstitutional delegation of legislative power.").

281. There are several terms used to describe such agreements between the extractives industry and communities. *See* Boubacar Bocoumb et al., World Bank Grp., Mining Community Development Agreements: Source Book (Vol. 2 of 4) 5 (2012) [hereinafter World Bank CBA Sourcebook] for a list of common names. For consistency, I will refer to these agreements as "CBAs" and will refer to sources documenting such agreements accordingly.

282. Lisanne Raderschall et al., Leading Practices For Resource Benefit Sharing and Development for and with Indigenous Communities, OECD Regional Development Papers No. 01 9 (2020) [hereinafter OECD Report].

283. *See id.*

284. Interagency Working Group Report, *supra* note 9, at 23 (describing the historical influence of mining on the Navajo Nation's economy); *see also* World Bank CBA Sourcebook, *supra* note 281, at 7 (namely, Papua New Guinea, Chile, and South Africa require companies to engage local governments and communities regarding the delivery of social and economic benefits).

although its negotiation, occurring only after Lithium Nevada submitted its plan of operations and after Tribes had already sued the government for failure to consult, did not follow best practices. CBA-stipulated benefits often come at the high, potentially irreversible cost of land and natural resource degradation. In 1990, a USBM researcher estimated that mining and processing had disturbed over 180,000 acres of lakes and reservoirs.[285] As already discussed, abandoned mines in the U.S. and mining spill disasters have exacerbated perpetual contamination and continue to affect health outcomes in nearby populations (especially among Tribes).

Despite receiving certain benefits, many Tribal members voice that they remain strapped for financial resources to build schools and critical infrastructure such as hospitals and water treatment facilities.[286] CBAs, when done thoughtfully, transparently, and with an eye towards sustainability, can play a significant role in remedying these resource deficiencies. The following section compares effective and weak CBAs and highlights best practices that should be incorporated within the United States. Investing in Tribal regional organizations to negotiate more equitable CBAs and partnership agreements is key to obtaining a SLO for American mining projects.

1. Comparing CBA Practices

Some scholars contend that while CBAs increase dialogue between industry and affected communities, they can also stifle information sharing, prevent groups from addressing long-term social impacts of development, constrain future dialogue about emerging concerns, and cause divisions within Indigenous communities.[287] For example, in Thacker Pass, some Tribes and Tribal members were not made aware that the FMPST had signed the CBA until after the agreement was concluded.[288] The World Bank reports that formal agreements "can lead to an interpretation of compliance that results in a minimalistic approach," freezing the companies' obligations to communities at the time of signing the CBA.[289]

Acknowledging these risks, the World Bank has considered the common characteristics of successful CBAs, meaning that they have "achieved a stable base of local support for the project and have contributed to local economic and social development."[290]

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285. Interagency Working Group Report, *supra* note 9, at 266.

286. *Id.* at 106.

287. OECD Report, *supra* note 282, at 99.

288. Thacker Pass Report, *supra* note 27, at 67–68.

289. World Bank CBA Sourcebook, *supra* note 281, at 9.

290. *Id.* at 10. At a high level, these characteristics comprise the following: (1) agreements should clearly describe the roles, behaviors, and expected behaviors of signatories; (2) CBAs go beyond mitigation and focus on long-term development and capacity building; (3) The relationship and negotiation are based on mutual respect; (4) Early planning and engagement

Successful CBAs can be encouraged through national policies. For instance, in Canada, several First Nations have proposed the creation of an Aboriginal Resource Tax (ART).[291] The tax would be imposed on infrastructure projects that take place on traditional territories instead of negotiating one-off financial agreements every time Indigenous land is impacted.

Given the location and claim system in the U.S., the Mining Law likely precludes the imposition of an additional tax on operators without legislative reform. However, the government can encourage the creation of indigenous benefit funds, which transfer private royalties from mining operators to affected communities. While other systems provide for the distribution of government-collected fees from mining to Indigenous communities, direct transfer is more suitable to the U.S. legal framework. Proponents should nevertheless advocate for future legal proposals seeking to amend the Mining Law to mandate such arrangements. While the U.S. government currently disperses collected revenues from Tribal land to trusts or to Tribes directly, this is limited to extraction occurring squarely on Tribal land.[292] Studies indicate that Tribal agency and autonomy over the fund contributes to long-term improvements in community health and welfare, provided accountability mechanisms are in place.[293]

2. The Role of Equity Agreements

Granting ownership stakes can provide Tribes with greater oversight roles and access to mining profits. Equity gives "Indigenous communities decision-making power in the conduct of [mining] operations . . . and provides a sustainable income stream."[294] A good example is from the Red Dog Mine in Alaska. The mine operates based on a joint-venture agreement between Cominco, a Canada-based company, and Indigenous shareholders of the Northwest Arctic Native Association (NANA).[295] The Red Dog deposit was unclaimed when the Alaska Native Claims Settlement Act (ANCSA) was signed into law in 1971.[296] ANCSA created 12 for-profit regional Native corporations

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are critical and should begin prior to exploration activities; (5) Closure planning should be built into discussions from the beginning; (6) The process should be conducted in a way that is fair to all parties and transparent; (7) Consider beneficiary communities beyond arbitrary geographic boundaries, taking into account social, economic, and cultural perspectives; (8) Build local ownership of CBA outcomes; (9) Establish how funding will be allocated between the parties and how decisions will be made; tagging funding to certain community projects/priority areas is desirable; (10) Establish a grievance mechanism that involves local leadership and institutions; and (11) Provide for regular auditing and reporting. *Id.* at 10–13.

291. OECD Report, *supra* note 282, at 14.

292. *Id.* at 15.

293. *Id.* at 16.

294. *Id.* at 29.

295. *Id.* at 46.

296. Matthew Berman et al., *Long-Term Benefits to Indigenous Communities of Extractive Industry Partnerships: Evaluating Red Dog Mine*, 66 Res. P. J. 1, 2 (2020).

that would hold mineral rights to lands selected by shareholder beneficiaries.[297] These beneficiaries are Alaska Natives who lived in or had historical ties to the region.[298] For the Red Dog deposit, NANA Indigenous shareholders initially did not support mineral development. However, mining companies held discussions with the shareholders to assuage their concerns, proposing development pathways for the Red Dog Mine that would protect traditional activities including subsistence agriculture.[299] NANA selected and received title for the deposit from the federal government and, in 1982, NANA signed a revenue-sharing agreement with Cominco, a Canada-based company, permitting it to build and operate the mine. The Red Dog Mine is now an open-pit mine located 50 miles from the Chukchi Sea and produces both lead and zinc.[300]

In exchange for development rights, NANA received $1.5 million as lump-sum payment, with an additional $1 million annually until the mine went into production.[301] Once production began in 1989, NANA received a 4.5% royalty on net smelter returns. Once Cominco (now Teck Resources) broke even on the project in 2007, NANA shared in the net proceeds of the mine, initially recouping 25% and set to increase every five years until NANA and Teck have a 50-50 profit share.[302] NANA also has a management/oversight role through a 12-person committee co-appointed by Teck. The revenue-sharing agreement included provisions for shareholder training and employment opportunities, and preference for contracting to NANA-owned companies.[303] Under the agreement, a committee of Elders from the two communities most geographically proximate to the mine have the ability to shut down the mine if they see a threat to subsistence.

So far, 55% of shareholders have obtained employment, considered high by global standards but well below the 100% hire rate stipulated by the agreement.[304] The Red Dog Mine makes payments in lieu of taxes to the Northwest Arctic Borough (NWAB), an entity with the same shareholder representation as NANA's. Since 2017, Teck has paid approximately $20-26 million annually to the NWAB.[305]

The Berman study examined the long-term impacts on NANA shareholder wages and livelihoods as a result of the agreement with Cominco/Teck Resources. Despite data limitations, the researchers found that NANA shareholders (presumed Indigenous) earned an average of $70,000 annually as of 2017 (including those not working full-time) with the Red Dog Mine

297. *Id.* at 2; 43 U.S.C. § 1601 et seq. (1971).
298. *Id.*
299. Berman, *supra* note 296, at 2.
300. *Id.*
301. *Id.*
302. *Id.* As of 2017, NANA's share of net proceeds had increased to 35%.
303. Berman, *supra* note 296, at 2.
304. *Id.*
305. *Id.*

employing approximately 500 NANA shareholder employees.[306] In terms of job tenure, attrition rate was high, especially for women among NWAB-resident Red Dog workers.[307] Ultimately, the study concluded that "Indigenous ownership including land and mineral rights provides power when negotiating impact benefit agreements."[308] However, the employment rate of residents of NANA communities was substantially lower than the Indigenous hire rate as a whole – 16% out of 55%.[309] The study was limited in its analysis of benefits to local residents, suggesting benefits were modest due to the high rate of non-local hires. The study also did not evaluate the role Red Dog work plays in the subsistence economy, instead only focusing on financial benefits of the mine.[310] Despite these constraints, the Red Dog Mine joint venture can serve as a model for equity arrangements with Tribes that go beyond mere financial returns, but stipulate local procurement policies and other benefits that improve local capacity over the long-term.

3. Mining CBA Case Studies in Other Jurisdictions

CBAs have been used around the world since the 1950s.[311] In recent years, benefit sharing agreements in Canada and Australia, two leading jurisdictions in "sustainable" mining operations, have increased in popularity as corporations have adjusted their procurement policies in response to regulatory requirements for greater Indigenous engagement.[312] In this section, I will review the characteristics of (1) the agreements themselves that have contributed to their success and (2) the enabling framework that has incentivized companies to adjust their practices.

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306. *Id.* at 4.

307. *Id.* at 5. 13% of men and 23% of women stayed less than a year, and less than 25% of initial Red Dog hires were still working at the mine ten years later. Median earnings for Red Dog employees, compared to NWAB controls who were also employed but did not work at the mine, were up to three times higher initially and, even though the earnings gap narrowed, remained 80% higher than earnings of the employed controls ten years down the line.

308. Berman, *supra* note 296, at 7.

309. *Id.* at 8. The study found the low local employment rate was not due to a lack of effort on Teck's part — 18% had applied but been turned down, and factors such as histories of alcohol/drug use, poor employment records, and a lack of the required high school diploma prevented other NANA residents from applying. For those employed, the data indicate that their earnings remained high even after leaving the mine, particularly for men, likely due to attainment of transferable industrial skills. The researchers determined that "while the mine did provide significant benefits to Indigenous people, most of the Indigenous workers lived outside the region," even though they remained NANA shareholders.

310. *Id.* at 8–9.

311. OECD Report, *supra* note 282, at 12.

312. *Id*. at 33–34.

a. Canada

Across Canada, there are currently over 500 agreements in place between mining companies and Indigenous communities.[313] While early agreements focused on employment and environmental protection, modern agreements have both financial and impact mitigation components that aim to increase Indigenous participation in the mining sector and help companies to maintain their SLO.

The Canadian government has strong enabling policies for early public engagement, holding public comment periods before determining whether an EIS is required and requiring companies to develop public participation plans for the impact assessment process.[314] Canada's "mining essentials" partnership, among community representatives, educators and industry, provides pre-employment training to individuals; upon completion, many of these individuals will work for the mining company, as agreed upon before the individuals engage in the training.[315]

In 2021, Canada's Parliament adopted the UN Declaration on the Rights of Indigenous Peoples Act (UNDA), kickstarting a process that seeks to implement UNDRIP nationwide.[316] Following enactment, the government conducted a two-phase consultation process with Indigenous Peoples, culminating in the 2023-2028 UNDA Action Plan that aims to ensure federal laws are consistent with UNDRIP. The Action Plan endorses a distinction-based approach, committing to a relationship based on "recognition of rights, respect, cooperation, and partnership that must reflect the unique interests, priorities, and circumstances of each People."[317]

While Canada's mining laws generally incorporate more best practice standards than those of the U.S., a 2020 report found that none of the country's five main mining jurisdictions complied with best practice standards, as articulated by IRMA.[318] British Columbia (BC) in particular falls "far short" of meeting social and environmental standards for mining operations; even so, it has enacted legislation that formally adopts UNDRIP standards and thus requires companies to obtain FPIC before projects can proceed.[319] British Columbia's Declaration of the Rights of Indigenous Peoples Act (DRIPA), adopted in 2019, requires the province to fully implement UNDRIP into its

313. The Mining Ass'n of Canada, *Mining-Indigenous Relationship Agreements*, https://perma.cc/5QKJ-ZJY6.

314. Interagency Working Group Report, *supra* note 9, at 66.

315. OECD Report, *supra* note 282, at 14.

316. Giuseppe Amatulli, *Implementing UNDRIP in British Columbia in a Post-Yahey Context*, 14 Arctic Rev. on L. and Politics 132, 133 (2023), https://perma.cc/YEA2-GRQH.

317. *Id.* at 137.

318. OKT Law, *Raising the Stakes – A Comparative Review of Canadian Mining Laws and Responsible Mineral Standards* (Sep. 11, 2020), https://perma.cc/N2KL-6UBG.

319. *See* Declaration on the Rights of Indigenous Peoples Act (S.B.C. 2019, c. 44).

legal framework. However, like the UNDA, this legislation reads more like a framework agreement — subsequent legislation is needed to specify how the province will adhere to these principles. Like the federal government, BC has since released an action plan in cooperation with Indigenous groups.

In *Yahey v. British Columbia*, the BC Supreme Court issued a landmark decision, holding that BC could not continue to authorize activities in breach of Treaty 8, a centuries-old treaty that reserves land and use rights for several First Nations living in what is now BC.[320] The court found that the province exceeded its treaty powers in that the Blueberry River First Nations' rights were "significantly diminished" and ordered the parties to manage the cumulative effects of industrial development by enjoining BC from authorizing further activities without the First Nations parties' consent.[321] Instead of appealing the ruling to Canada's Supreme Court, the BC Province negotiated an agreement with Blueberry River First Nations to establish a restoration fund worth over $200 million to support land restoration activities and to approach future land-use planning through an ecosystem-based management approach.[322]

This holding demonstrates the Canadian judiciary's willingness to interpret treaty rights functionally — to consider cumulative effects of industrial development on a First Nations' *meaningful* exercise of treaty rights. While the clawing back of NEPA and other consultation statutes in the U.S. makes it difficult to imagine a similar ruling by an Article III court, this case serves as an ideal that can be later incorporated into NEPA and other Tribal consultation requirements. While the holding does not explicitly reference UNDRIP nor FPIC, the concepts are implied throughout the court's reasoning. As Canada continues to implement the UNDA (and BC the DRIPA), courts are more likely to invoke these acts and associated legislation to interpret Indigenous treaty rights and harms caused by mining in favor of affected Indigenous communities.

b. Australia

In Australia, mining contributes nearly 55 percent of the country's export revenues.[323] Like Canada, Australia has relatively strong enabling policies for encouraging public participation and safeguarding Indigenous interests and mitigating adverse impacts. As of 2024, Australian law does not require corporations to secure FPIC in accordance with UNDRIP, despite Australia endorsing the Declaration in 2009.[324] However, Australia has taken steps to progressively incorporate FPIC-related principles into the mainstream. In 2019,

320. Yahey v. British Columbia, 2021 BCSC 1287 at para. 1894 (Can.).
321. Mandell Pinder LLP, *Yahey v. British Columbia, 2021 BCSC 1287 – Case Summary* (Jul. 30, 2021), https://perma.cc/Z38N-4LMD.
322. *See* Amatulli, *supra* note 316, at 134.
323. OECD Report, *supra* note 282, at 6 (data current as of 2020).
324. Hussain Jameel & Jessica Johnston, ANTAR, *Free, Prior and Informed Consent Factsheet* 14 (2024), https://perma.cc/6YLL-GZX8.

the Queensland Government listed FPIC as one of its guiding principles in a Statement of Commitment to Aboriginal Peoples.[325] The Australian government has also adopted initiatives to promote procurement policies in remote areas, such as Indigenous Procurement Policy set-aside arrangements that prioritize Indigenous business contracts and set Indigenous participation targets.[326]

Australia's land rights statutes generally support agreement-making for mineral extraction because they confer collective fee simple title. The Aboriginal Land Rights (Northern Territory) Act of 1976 provided for the creation of Aboriginal land trusts to hold title to the land and has resulted in over 50 percent of the Northern Territory being returned to Indigenous Peoples.[327] Under the Act, mining companies pay royalties to the government and to the Indigenous population of the Northern Territory for operations located on Aboriginal land.[328]

State-funded statutory bodies support CBA negotiation and establishment.[329] Local Indigenous corporations, Prescribed Bodies Corporate (PBCs) linked to native title claims, and Indigenous Land Councils all have unique approaches for priority-setting and enhancing Indigenous capacity.[330]

Despite its accomplishments, Australia still lacks true partnership models with Indigenous Peoples for extractives. In 2013, the UN Special Rapporteur on the Rights of Indigenous Peoples deemed Australia's approaches were "predominantly driven by actors external to local Indigenous communities . . . fail to deliver adequate local benefits."[331] In fact, in Australia, Indigenous peoples living in rural areas face higher unemployment rates than the average Indigenous citizen, despite the fact that resource extraction occurs rurally.[332] In 2019, Australia established a formal partnership on Closing the Gap between the Commonwealth government, state and territory governments, the Coalition of Peaks, and the Australian Local Government Association.[333] The Australian governments shared decision making with Aboriginal representatives to develop

325. *Id.* at 15.
326. OECD Report, *supra* note 282, at 34.
327. Australian Inst. of Aboriginal & Torres Strait Islander Studies, *Land Rights* (last updated Sep. 6, 2024), https://perma.cc/Y4UX-32XQ.
328. The Act was enacted on the heels of the Gove land rights case, where the Yolngu people petitioned the government to recognize the Yolngu's ongoing relationship with the land and deny the construction of a bauxite mine. The Northern Territory Supreme Court rejected the claim under a narrow definition of property. Milirrpum v. Nabalco Pty. Ltd. (1971) 17 FLR 141 (Austl.). *See generally Land Rights*, *supra* note 327; National Museum Australia, *Aboriginal Land Rights Act*, https://perma.cc/GZJ5-X7KU.
329. OECD Report, *supra* note 282, at 13.
330. *Id.* at 23.
331. James Anaya (Special Rapporteur on the Rights of Indigenous Peoples), *Extractive indus. and indigenous peoples*, UN Doc. A/HRC/24/41 (2013).
332. OECD Report, *supra* note 282, at 6.
333. Closing The Gap, *Partnership*, https://perma.cc/K5X8-KWL4.

a National Agreement on Closing the Gap, signed by all parties in 2020.[334] The Agreement's objective is "to overcome the entrenched inequality faced by too many Aboriginal and Torres Strait Islander people so that their life outcomes are equal to all Australians."[335] This partnership and Agreement demonstrate concrete actions the government has taken to address existing inequities in the treatment of Indigenous Peoples.

4. Applying CBA Best Practices to the U.S. Context

OECD identifies that successful CBAs recognize individual characteristics of the partner Indigenous community and tailor benefits to that community's needs and capabilities.[336] However, the authors emphasize the need for wider, long-term regional development initiatives to create enabling conditions for negotiations that seek to mitigate the power asymmetries between communities and the mining companies.[337] Broadly speaking, due to barriers to access to employment, community infrastructure investments, education, and business development are usually the most beneficial investments a company can make to support the Tribe while maintaining its social license.[338] OECD also cautions against supporting a "resource curse," where communities agree to CBAs that lead to short- and medium-term economic gains but are really a license for environmental degradation so harsh the long-term impacts become unsustainable.

The agreements also need to be sensitive to community dynamics and should balance interests of Tribes that are geographically proximate to the mine and thus most "directly" affected with those of Tribes more removed location-wise, but which may still have strong connections to the affected land due to existence of sacred sites and other cultural heritage.[339]

Confidentiality (or NDA) clauses in CBAs can frustrate Tribes' abilities to exercise their full bargaining power, seek assistance from third parties, or use prior CBAs as leverage for new negotiations.[340] Often, CBAs can be entered into by the Tribal government without the awareness (or support) of other members. To guard against these deficiencies, the United States could assist in developing accessible databases that publish CBAs in order to increase transparency and accountability.

334. *See generally* Closing the Gap, *National Agreement on Closing the Gap* (July 2020), https://perma.cc/RBX5-9GPJ.
335. *Id.* at 3.
336. OECD Report, *supra* note 282, at 5 (noting that the work "puts a special focus on economic geography and recognizes [that] there is no one-size-fits-all solution for how Indigenous peoples can… improve their well-being from resource developments.").
337. *Id.* at 5–6.
338. *See id.* at 14.
339. *See id.* at 11.
340. *See id.* at 13.

As mentioned in the World Bank Sourcebook, CBAs should also articulate a clear oversight mechanism, with an internal dispute resolution process that can address grievances without requiring formal litigation. Because CBAs are legally enforceable documents, rights and obligations should be spelled out in a manner that translates to straightforward judicial enforcement.

As indicated in Section IV *supra*, strengthening Tribal capacity to engage in dialogue with both governmental and corporate entities and possess the technical acumen to confirm the proposals will not enable long-term harms or degradation are critical aspects of implementing sustainable reforms. Australia's Indigenous Governance Toolkit can serve as an example for U.S. counterparts on how to customize solutions based on community practices, particularly in strategic planning, financial and risk management, and conflict resolution.[341] Investments in Tribal organizations and Tribal-led corporations established to represent Tribal communities in CBA negotiations will help to alleviate the pressure on Tribal governments from having to lead discussions and be involved in all aspects of negotiation and decision-making.

D. Note on Adoption of FPIC in U.S. Law

Given the state of Tribal consultation requirements at the statutory level, FPIC is far from being integrated into the U.S. legal framework.[342] Challenges remain for Tribes to fully implement FPIC *within* their reservations, despite having the facial support of the 1982 Indian Mineral Development Act (IMDA).[343] Moreover, because only *final* agency actions are judicially reviewable, legal remedies are limited and may come too late to meaningfully safeguard Tribal interests—in other words, FPIC currently seems incompatible with the U.S. legal framework unless doctrine evolves in more ways than one.[344]

In the absence of FPIC codification, there have been efforts by industry actors to incorporate Tribal engagement commitments in their supply chains. For

341. The toolkit is available at https://perma.cc/5QGK-J5RZ.

342. One such example in a different context is the Dakota Access Pipeline. In July 2017, the D.C. District Court found that statutory consultation processes under section 106 of the NHPA had been adequately fulfilled, despite Tribal claims that consultation only occurred after key decisions relating to the pipeline route had already been taken. *See* UN Human Rights Council, Rep. of the Special Rapporteur on the Rts. of Indigenous People on Her Mission to the U.S., at paras. 67–70, UN Doc. A/HRC/36/46/Add.1 (2017).

343. The IMDA enables Tribes to negotiate contractual terms of resources located on their reservations, "like any owner of valuable resources." Cathal M. Doyle, The Evolving Duty to Consult and Obtain Free Prior and Informed Consent of Indigenous Peoples for Extractive Projects in the United States and Canada 175 (1st ed. 2019) (quoting Senate Select Committee on Indian Affairs, S. Rep. No. 472, 97th Cong., 2nd Sess., 1982).

344. *See id.* at 185–86 ("The fact that Supreme Court decisions have historically frequently been unfavourable to tribal sovereignty and are uninformed by IHRL is also relevant when considering the judicial position on the duty to consult.").

instance, KoBold Metals, a mining exploration company, engages Indigenous communities in Canada, Australia, and Namibia prior to exploration.[345] However, few, if any, examples exist of strict adherence to FPIC in the United States, given the absence of enabling policies.

VIII. Conclusion

As the United States faces intensifying pressure to secure reliable, domestic sources of critical minerals, longstanding deficiencies in the nation's legal frameworks relating to mining are increasingly untenable. The lasting consequences of the anachronistic Mining Law of 1872, a fragmented permitting regime, and lack of procedural safeguards requiring proper community consultation have left Tribes largely without meaningful input into decisions that directly threaten their cultural, environmental, and economic interests. While the Biden Administration in particular made strong strides to acknowledge and address these challenges, reform requires both regulatory re-interpretation and structural shifts to allow for the freely given SLO to be obtained.

This article has argued that a re-determination of FLPMA's "unnecessary or undue degradation" standard offers a crucial, immediate opportunity to protect public lands and Tribal resources, particularly in the likely absence of near-term legislative reform. Moreover, supporting Tribes through capacity-building, transparent benefit-sharing agreements, and alignment with international best practices like FPIC are essential steps for repairing trust and ensuring the long-term legitimacy of the clean energy transition in the United States. Critical minerals mining may be a technological necessity (as of now), but its implementation must not perpetuate historical patterns of dispossession, exclusion, and environmental degradation. Only through substantive reform and genuine engagement with Tribal concerns can the U.S. reconcile its climate ambitions with its commitments to environmental justice and Tribal sovereignty.

345. Julia Simon, *Demand for minerals sparks fear of mining abuses on Indigenous peoples' lands*, NPR (Jan. 29, 2024), https://perma.cc/U5ND-R2DT (KoBold is engaging "with Indigenous communities… before they start exploring – not after, which [Director of Community Engagement Fabiana Peek] says, has been the industry standard.").