Oversight Hearing: "The Toxic Legacy of the 1872 Mining Law "

Subcommittee on Energy and Mineral Resources
Committee on Natural Resources
U.S. House of Representatives

Statement of James F. Cress

July 27, 2021

Mr. Chairman, Ranking Member and Members of the Subcommittee,

My name is Jim Cress. I am testifying today at the request of the Subcommittee and not on behalf of any organization. I am a mining lawyer in private practice at Bryan Cave Leighton Paisner LLP in Denver, Colorado. I have specialized for more than 30 years in U.S. and international mining law. I have represented mining companies and landowners, including Alaskan Native corporations, in negotiating royalties, leases and other agreements for numerous minerals. I have worked extensively with Federal mineral leases for coal, potash and sodium, and I am an author of the American Law of Mining treatise chapter on "Non-Coal Federal Mineral Leasing,"[1] including the hardrock mineral leases used on certain federal lands that are the basis for this Committee's prior mineral leasing proposal, H.R. 2579. I have advised clients on royalty compliance for private, federal and state royalties and mineral severance taxes. In my international mining practice, I have evaluated foreign mining laws, mining agreements and mining royalties and taxes, and I have negotiated royalty and mining agreements with governments and third parties in a number of countries in Asia, Europe, South America and Africa. I have advocated for local and indigenous communities to obtain more equitable participation in the benefits of natural resources development as a board member of the non-profits Sustainable Development Strategies Group and RTC Impact Fund, and helped draft the International Bar Association Mining Law Committee's Model Mine Development Agreement, an example template for a mining agreement between a developing country government and mining company that includes provisions for community and indigenous peoples' consultation. I also frequently lecture in international and domestic mining law, communities and sustainable development, including at the University of Denver Sturm School of Law and Western Colorado University. I am currently on the board of directors of Merica Singapore, a privately-owned holding company with rooftop solar energy and sustainable plantation forestry subsidiaries in three Asian countries.

Thank you for the opportunity to appear and speak on the future of the U.S. Mining Law.[2] Although the title of the hearing suggests a more backward look, I would like to address my comments today to the future of the Mining Law, under

[1] 1 American Law of Mining, 2nd Ed. Ch. 20 (Rocky Mountain Mineral Law Foundation ("RMMLF") 2021), originally authored by my colleague Thomas F. Cope.
[2] 30 U.S.C. §§ 21(a) et seq. (I will refer to the existing U.S. mining claim location system as the "Mining Law" in my testimony).

the assumption that the Committee is working on legislation to amend the Mining Law similar to the bill it reported out in the 116th Congress, H.R. 2579.[3]

I would like to address primarily two issues, the proposal to convert the mining claim system to a mineral leasing system and the imposition of a gross royalty of 8% to 12-1/2% on existing and future hardrock mining operations on federal lands. Both of these proposals would have an extremely negative impact on mineral production from federal lands, imposing years or decades of transition delays we cannot afford at a time when increasing exploration for and production of minerals is critical to the transition to a low-carbon, clean energy future.

The leasing system proposed in H.R. 2579 is borrowed from a portion of the U.S. mineral leasing system that is designed for large, already-identified mineral deposits. This system, especially when combined with other provisions of H.R. 2579, is unworkable for scarce and difficult to locate hardrock mineral deposits, and contains none of the title-protecting attributes of the current Mining Law or the leasing and mineral concession systems used by the Western states and leading mining countries.

A. The Present Context: Increased Production of Critical Minerals is Needed to Meet Clean Energy and De-Carbonization Goals

The context for the Committee's review of the Mining Law has changed dramatically over the last 20 years as the U.S. has become more and more dependent on foreign sources for certain critical minerals and materials that hold the key to our future, particularly the ongoing and accelerating transformation of our energy sector. This transformation is reflected most recently in the Biden administration's ambitious goal of reducing U.S. greenhouse gas emissions by more than 50% from 2005 levels by 2030.[4] Included in this effort is a goal of producing 100 percent of U.S. electricity from carbon pollution-free sources by 2035. Meeting these goals requires looking forward, not backward, at how minerals produced from federal lands under the Mining Law can help facilitate the transition to a de-carbonized energy future.

In the White House's recent report "Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth"[5] the Department of Defense evaluates critical vulnerabilities in the U.S. supply of certain "critical minerals and materials," many essential to the large-scale development of and transition to low-carbon, clean energy. These critical minerals are needed for, among other uses, electric vehicles, wind turbines and large storage batteries that can store and release intermittent solar and wind power. As noted by DOD, annual

---

[3] H.R. Rept. 116-467, 116th Cong., 2d Sess. (Aug. 4, 2020), on the Hardrock Leasing and Reclamation Act of 2019, H.R. 2579.

[4] FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies (White House April 22, 2021).

[5] Building Resiliant Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth - 100-Day Reviews Under Executive Order 14017 (White House June 2021)("White House Report"). See "Review of Critical Minerals and Materials," Department of Defense, at pp. 151-204 ("Critical Minerals Review").

domestic mining activities are valued at less than $100 billion but enable more than $3 trillion in domestic value-added industry. DOD also warns that while critical mineral supply-chain vulnerabilities pose a national security threat, the greatest impact of critical mineral shortages will fall on private industrial activity, including the industries that will power our energy transformation.

Over the next 20 years, demand for minerals produced from federal lands will increase dramatically. According to a new study by the International Energy Agency, global demand for battery minerals lithium and graphite is anticipated to grow in the next 20 years by 4000% and 2500%, respectively, to meet clean energy and de-carbonization goals.[6] The amounts of critical minerals consumed by this "green energy" transition will increase massively over the next two decades, to over 40% for copper and rare earth elements, 60-70% for nickel and cobalt, and almost 90% for lithium. This is a massive surge in demand for critical minerals for which supply is already stretched by increasing development around the globe.

Extraction from most federal lands of most of the critical minerals discussed in the Critical Minerals Review is currently governed by the Mining Law. Some of the more scarce but critical minerals needed for renewable energy and electric vehicles are often or solely found as co-products or byproducts of deposits of titanium, iron, nickel, copper, gold, platinum, lead, zinc and tin.[7] For example, the massive copper-nickel deposits of the Duluth Complex in Northern Minnesota also contain cobalt, currently not produced at all in the United States, and platinum group metals, currently produced domestically at only one mine. The Stibnite gold and silver deposit in Idaho, currently undergoing permit review, would be the sole domestic source of antimony needed for batteries.[8]

Eighteen of the critical minerals studied in the DOD's Critical Minerals Review have no production at all in the United States, and 83% of critical minerals produced domestically are derived from a single mine. A single domestic source exists for 29 critical minerals, and 37 critical minerals for which the U.S. relies 50% or more on imports are produced from a single foreign country. This concentration of critical mineral supply has led, for example, to WTO disputes with China over its export quotas for rare earth minerals, and to cobalt supplied from the Democratic Republic of Congo using child labor. Strategies to reduce supply risk are limited in part by the locations where the minerals can be found. In the United States, many of these deposits are found on federal lands, and finding them requires laws and policies that provide open access to federal land for exploration and secure mineral tenure upon discovery.

[6] The Role of Critical Minerals in Clean Energy Transitions (IEA 2021)
[7] See Critical Minerals Review, pp. 177-79 (25% to 100% of cobalt, rare earth, gallium, indium, nickel, manganese, platinum, palladium, rhodium, tellurium and vanadium are mined as by-products of primary deposits of gold, copper, nickel and other metals).
[8] See Stibnite Gold Project EIS project page

Additional domestic mineral exploration and development on federal lands will be needed even if recycling of critical minerals from magnets and batteries can be developed. Even 100% rates of recycling (which is not technically achievable) are inadequate to support the critical minerals needed to meet the Biden Administration goals for de-carbonization and clean energy development. For example, DOD notes that recycling of copper meets 40% of current U.S. demand, but copper demand is accelerating with the clean energy transition.

The Department of Energy review of supply chain issues for large storage batteries contained in the White House Report emphasizes that substantial amounts of the cobalt, nickel, copper and manganese needed for storage batteries to power the de-carbonization of the energy sector are found as co-products or byproducts of gold, copper and other primary deposits.[9] The Department recommends supporting the sustainable domestic extraction of these minerals, including re-mining of previously-mined domestic deposits, to meet the imminent demand for storage batteries.[10]

Any change in the Mining Law that impacts how these precious and base metals are explored for and developed will also impact the critical minerals supply. The massive overhaul of the Mining Law as proposed last year in H.R. 2579, including conversion to mineral leasing and imposition of excessive royalties, will likely delay and decrease production of critical minerals and all other locatable minerals from federal lands.

B. Transitioning to a Leasing System Will Take Years or Decades, Time We Don't Have under the Biden Administration Goals

Given the huge increase in demand for the de-carbonization of our energy supply and the targeted 2030 reductions in greenhouse gas emissions, now is clearly not the time to replace the Mining Law with a new leasing system that will require many years to implement. Much more limited transitions of individual minerals from Mining Law to mineral leasing, even simply closing lands to new claims under the Mining Law, have resulted in years or decades of delay and legal uncertainty. Even relatively minor changes to laws for coal, oil shale and other minerals already in the leasing system have resulted in years or decades of regulatory rulemakings, planning efforts, uncertainties and court challenges. A few examples will illustrate the magnitude of the problem.

1. *Oil Shale*

The Mineral Leasing Act of 1920[11] converted oil shale, a sedimentary rock containing kerogen found in parts of Colorado, Utah and Wyoming, from a locatable mineral under the Mining Law to a leasable mineral. Thousands of oil shale mining claims were located prior to 1920, so when the Mineral Leasing Act withdrew oil shale from location, it preserved from the leasing system all "valid

[9] "Review of Large Capacity Batteries," Department of Energy, in White House Report, pp. 97-105.

[10] *Id*. At 138-42. Re-mining could be greatly encouraged if this Committee includes a "good samaritan" provision in any new mining bill.

claims existent on February 25, 1920 and thereafter maintained in compliance with the laws under which initiated, which claims may be perfected under such laws, including discovery."[12]

Despite the clear protection of valid existing mining claims, the transition from oil shale mining claims to oil shale leasing was not an easy one. Oil shale leases have only infrequently been offered since 1920. The Department of the Interior instead spent decades attempting to invalidate oil shale mining claims grandfathered by the Mineral Leasing Act, culminating in three cases decided by the United States Supreme Court.[13] A stalemate of sorts resulted from the oil shale mining claim provisions of the Energy Policy Act of 1992.[14]

The rocky, still uncompleted, 70-year transition from withdrawal of oil shale from the Mining Law to a leasing system occurred even though the Mineral Leasing Act of 1920 (like virtually all public land laws in U.S. history) grandfathered all existing mining claims from the new requirements, whether producing minerals or not. H.R. 2579 would have forced conversion to a lease for *all* hardrock mining claims that are not producing minerals on the date of enactment, with no protection of non-producing claims with "valid existing rights," [15] which would likely trigger even more litigation.

There were 386,936 active mining claims on federal land as of fiscal year 2019, significantly more claims with more market value than the oil shale claims that were litigated for decades under the Mineral Leasing Act. A forced conversion of mining claims to a leasing system will likely also spawn similarly massive litigation. The uncertain status of the hundreds of thousands of non-producing or non-permitted claims during the 10 year "transition" period of H.R. 2579 (and related litigation) will likely chill new investment needed in critical minerals, not just new "greenfields" projects but for advanced exploration and development projects and "brownfields" exploration around existing mining operations.

2. *Federal Coal Leasing Amendments Act*

The Federal Coal Leasing Amendments Act of 1976[16] made certain modifications to leasing of coal on federal lands. Leasing was not new for coal, which had been leasable under the Mineral Leasing Act and prior law for more than 60 years.[17] The passage of FCLAA followed a coal leasing and prospecting permit moratorium declared by the Department of the Interior in 1971 and 1973. FCLAA addressed the concerns that resulted in the moratorium by adding new requirements for competitive leasing and prior land use planning (adopted in a separate law), substituted exploration licenses for prospecting permits, adjusted

---

[11] 30 U.S.C. §§ 181-263 ("Mineral Leasing Act").
[12] 30 U.S.C. § 193.
[13] See 2 American Law of Mining, 2nd Ed. §§ 20.20, 45.08[2] (RMMLF 2021) for the long history of this litigation.
[14] Pub. L. No. 102–486, § 2511(e), 106 Stat. 2776 (1992), 30 U.S.C. § 242.
[15] H.R. 2579, § 101.
[16] Pub. L. 94–377, §§ 2–4, Aug. 4, 1976, 90 Stat. 1083, 1085, codified at 30 U.S.C. §§ 201(a)(2) ("FCLAA").
[17] 1 American Law of Mining, 2nd Edition § 25.04 (RMMLF 2021).

royalty rates, and included certain diligent production requirements for federal coal leases.

With prospecting and leasing for coal already disrupted by the moratorium for five years prior to its enactment, FCLAA resulted in another 10 to 15 years of dysfunction in the federal coal leasing program as the Department of the Interior attempted to implement its provisions and fought with industry and environmental groups in court. FCLAA resulted in immediate confusion among federal coal lessees about whether and to what extent their existing leases were subject to the new rules, and the changes to the leasing system (including land use and coal program planning) took many years to implement.[18] The law itself had to be amended within two years[19] to clarify that the addition of new acreage to an existing lease (a common practice for producing coal mines) did not immediately subject the entire lease to the higher royalties and other requirements of FCLAA.

Similarly, FCLAA triggered a rash of lawsuits regarding whether and under what circumstances the Department of the Interior could impose new terms on existing coal leases as they came up for readjustment. These cases arose almost immediately after the enactment of FCLAA in 1976 and continued for 15 years.[20] Because some of the FCLAA changes to leases had substantial impacts on the economics of existing coal mines and mines in development, coal miners faced substantial uncertainty over whether to make hundreds of millions of dollars of investments in U.S. coal mines on federal lands during this period.

Under FCLAA, the Department of the Interior developed a Federal Coal Leasing Management Program, including a system for issuing competitive leases as required by FCLAA. The federal leasing program was immediately challenged in court by environmental groups and delayed for two years until the case was settled. The FCLAA regulations originally allowed new coal leases to be auctioned only in "known recoverable coal resource areas" (KRCRAs). Unfortunately, 83% of the known federal coal resources were not designated as KRCRAs and were thus barred from leasing. In 1982, six years after FCLAA was enacted, the unworkable KRCRA regulation was dropped.

DOI finally approved the Federal Coal Leasing Management Program in 1986, after more than 10 years of development, NEPA review, another Congressional coal leasing moratorium, and related litigation. The program established eight federal coal production regions throughout the U.S., each with a Regional Coal Team to propose and conduct the competitive lease auctions provided by the act. However, there was little or no interest in competitive leasing and the competitive leasing program immediately withered. Two regions were discontinued before the program was even approved in 1986, and the remaining six were decertified between 1987 and 1990 due to the complete lack of interest in

[18] *See generally* 1 American Law of Mining, 2nd Ed. Ch. 25 & 26 (RMMLF 2021).
[19] Pub. L. 95–554, § 2, Oct. 30, 1978, 92 Stat. 2073.
[20] See, e.g., *Trapper Mining Inc. v. Lujan*, 923 F.2d 774 (10th Cir. 1991); *Western Fuels-Utah, Inc. v. Lujan*, 895 F.2d 780 (D.C. Cir. 1990); *Rosebud Coal Sales Co. v. Andrus*, 667 F.2d 949 (10th Cir. 1982).

competitive coal leasing.[21] Federal coal leasing program reverted to "leasing by application," similar to the pre-FCLAA practice.

H.R. 2579 contained provisions similar to FCLAA, requiring comprehensive land use planning prior to leasing and competitive leasing of hardrock deposits on "Federal lands known to contain valuable deposits of hardrock minerals" and not covered by existing mining claims or leases.[22] There is no obvious reason to include this provision in a hardrock minerals law, copied from the Mineral Leasing Act for oil fields and large-scale bedded deposits that were "known to exist" in certain areas when they were withdrawn and converted to a leasing system. Oil & gas and coal and large-scale, bedded deposits like sodium, phosphates and potash, were comparatively easy to identify even in 1920, which is why the federal leasing laws and regulations required competitive leasing in areas with "known" deposits. Hardrock deposits, including critical minerals, are much harder to find, even near existing mines, which is why they were left as locatable under the Mining Law to continue to incentivize private parties to look for them.

There were 386,936 active mining claims located on 11,431,347 acres of federal land in fiscal year 2019 according to the BLM[23], leaving perhaps hundreds of millions of acres of federal land[24] to be evaluated for "known ... valuable deposits of hardrock minerals" and studied in land use plans and related NEPA documents under H.R. 2579, prior to *any* new permits or leases being available. Unlike FCLAA, the H.R. 2579 requirement is *statutory*, not *regulatory*, so the Department of the Interior would be unable to drop it if it proves unworkable, as it did for the Federal Coal Leasing Management Program. This staggering task of categorizing hundreds of millions of acres, and related regulations and court challenges, could easily consume a decade or more of the 14 years available to meet the Biden Administration de-carbonization and clean energy goals.

C. The "Suitability" Reviews Proposed in H.R. 2579 Spawned Decades of Litigation for Federal Coal Leasing

Similar to the lengthy land use and program planning provisions of FCLAA, H.R. 2579 borrowed another requirement from federal coal law for the Department of the Interior to determine whether any new mineral activity conducted after the date of enactment is located on "lands are suitable for mineral activities."[25] These determinations, which can be petitioned for, and are subject to appeal by, any third party for any tract of federal land, are to be incorporated into land use plans (which are similarly subject to NEPA review and third party appeals).

---

[21] 1 American Law of Mining, 2nd Ed. § 26.02[6] n.15 (RMMLF 2021); Mineral Resources: Federal Coal-Leasing Program Needs Strengthening (GAO RCED-94-10 1994).
[22] H.R. 2579, §§ 103(b)(4), 104.
[23] Public Land Statistics 2019 (BLM 2020), Table 3-22.
[24] The Department of the Interior and Forest Service do not know exactly how much federal land is open to mining claim location. "Hardrock Mining: Availability of Selected Data Related to Mining on Federal Lands" (GAO Report May 16, 2019)
[25] H.R. 2579, § 112.

These "suitability" determinations appear modeled after a similar provision in the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The SMCRA provision allows the Department of the Interior, on its own initiative or based on the petition of another government agency or private group or individual, to declare that specific lands are "unsuitable for coal mining" based on certain criteria.[26] The SMCRA "unsuitability" provision resulted in multiple rulemakings over more than 25 years and numerous takings claims over the five decades since enactment.[27] It seems safe to say that the rulemakings, program development, land use plans and accompanying appeals of a "suitability" provision such as H.R. 2579 will consume more than the 14 years available to increase production of critical minerals to meet the Biden Administration's clean energy agenda.

Moreover, the requirement in H.R. 2579 applies to *individual prospecting licenses*, meaning that *no new exploration* on open Federal lands anywhere in the United States can occur without a prior "suitability review." This will likely delay new greenfields exploration for the additional critical minerals we need for many years. The "suitability" provision by itself appears likely to derail the Biden Administration's 14 year timeframe to expand production of critical minerals to achieve its ambitious de-carbonization goals.

D. The Leasing System Proposed in H.R. 2579 was Not Designed for Hardrock Minerals

H.R. 2579 proposed the conversion of all non-producing mining claims on federal lands to a form of hardrock mineral lease that is currently used for just a few hardrock mining operations on "acquired" federal lands. The provisions of the Mineral Leasing Act that form the basis of the current federal hardrock leasing system were not designed for and are ill-suited for hardrock deposits. H.R. 2579's leasing system is even more of a square peg, especially when combined with other provisions like "suitability" reviews and requirements for surface agency consent prior to issuing prospecting permits and leases.

The Mining Law was designed with a self-initiation feature to encourage exploration and discovery across many millions of acres of federal land which are not yet proven to contain mineral deposits. Hardrock deposits are much harder to find and, if found, generally require much more extensive mining, processing and refining to produce salable products. In the Mineral Leasing Act of 1920, oil & gas, coal and similar bedded deposits like sodium and potassium that had been earlier withdrawn from location under the Mining Law were leased under different terms and conditions that made sense for the large and relatively easy to identify and process deposits of those specific minerals. Many of the leasable minerals, including coal, potash and helium, were subject to stricter leasing control and acreage limits for national security considerations of its 1920 era (potash was needed for explosives, helium for dirigibles, and coal for naval warships).

[26] 30 U.S.C. § 1272; see 5 American Law of Mining, 2nd Ed. § 172.04 (RMMLF 2021).
[27] See, e.g, the summary of rulemakings and litigation in the preamble to the 1999 amendments to the "unsuitability" regulations, 64 Fed. Reg. 70,766 (Dec. 17, 1999)

Hardrock minerals were not made leasable in the Mineral Leasing Act of 1920 because of the differences in these minerals and the need to encourage self-initiated discovery of these small, hard to find deposits. Hardrock minerals on some lands were added to the leasing system decades later, due to unique circumstances, as described below.

There are currently very few federal hardrock mineral leases. The GAO reported to the Chairman last year that there were only 20 permitted operations located on 35,927 acres of federal hardrock leases, and only seven of those operations actually produced minerals as of September 30, 2018.[28] By comparison, there were 728 mining operations permitted on 317,783 acres of mining claims located under the claim location system. The scarcity of federal hardrock leases is partly because federal leasing of hardrock minerals only occurs on certain lands that are acquired by the government for non-mining purposes, mostly in Midwestern and Eastern states that had no "public domain" subject to operation of the Mining Law.

The fact that federal hardrock leases are only found on "acquired" lands rather than "public domain" lands is a critical fact, because the laws and regulations that permit "acquired" lands to be mined and explored for minerals were designed to protect the primary purpose for which the surface of those lands were acquired and managed. For example, the consent of the surface-managing agency (often the Forest Service) is required for issuance of a hardrock mineral lease, and a lease is used so that site-specific written conditions can be included to protect the primary purpose for which the surface was acquired. Surface agency consent addressed the unique circumstance of allowing mining after the fact on federal lands acquired for specific surface uses.

By contrast to the restricted purposes of "acquired lands," federal "public domain" lands where the Mining Law permits claim location are available for hardrock mineral exploration alongside other surface uses and managed for these multiple surface uses. To prioritize certain non-mining uses on "public domain," a series of laws and regulations were passed over the last 150 years, authorizing mineral withdrawals, designation of Wilderness Areas, National Parks, wildlife refuges and other categories of "preferred" land use. Where these "preferred" uses are incompatible with mineral development, these laws remove, or authorize surface management agencies to remove, federal lands from the Mining Law. Generally speaking, rather than requiring surface agency consent for each individual mining project, as is done for hardrock leases on "acquired" lands, these public land laws have been used to withdraw federal lands from the Mining Law or otherwise limit mining activities to prioritize other uses of the surface (wilderness, conservation, wildlife habitat, recreation, etc.) on a broader scale.

[28] Mining on Federal Lands: More than 800 Operations Authorized to Mine and Total Mineral Production is Unknown (GAO-20-461R May 28, 2020) ("GAO Mining Data Report").

This regional rather than project-specific consent approach to addressing and reconciling multiple uses of "public domain" has resulted in approximately 450 million acres of the 650 million acres of federal lands now being off limits to mining claims or mineral activities. The lands that remain are open to self-initiated mining claim location without site-specific consent of the surface management agency, but are subject to compliance with environmental and other permitting regulations for mineral exploration and development.

H.R. 2579 upends this entire system by effectively converting all "public domain" to "acquired lands" status requiring multiple, site-specific consents for any mineral activity. Public lands policy that evolved in numerous laws and compromised over 150 years to increase surface protection for "preferred" surface uses, balanced with leaving some lands open to mining claim location, is junked in favor of a surface agency consent requirement for any mineral activity at all, even prospecting. If enacted, the H.R. 2579 mineral leasing approach would be the most major change to public lands policy in more than a century.

E. H.R. 2579 Guts the Self-Initiation and Rights to Mineral Discoveries Provided Under the Mining Law

Hardrock lease procedures and terms were grafted onto the Mineral Leasing Act rules for other, dissimilar minerals, when they were later added to the leasing system. Lands acquired by the Forest Service under the Weeks Act, for example, as well as other specific acquired lands, were added to the mineral leasing regime under laws passed in 1946 and 1947, in part because of doubts raised about the legality of mineral leasing on "acquired" lands.[29] The 1946 law permitting the Department of the Interior to lease hardrock minerals under Forest Service "acquired" surface did not contain any procedures for leasing, so the regulations applicable under the Mineral Leasing Act of 1920 and the Mineral Leasing Act for Acquired Lands of 1947 were used by default.[30] For these reasons, the current federal hardrock leasing is more of a historical afterthought than a leasing system designed to promote hardrock mineral discovery and development.

The particular hardrock leasing provisions chosen for inclusion in H.R. 2579 lack critical elements that make the U.S. Mining Law location system work for mineral exploration and discovery, primarily the principle of self-initiation and security of ownership/tenure if a mineral deposit is discovered. Despite the claim that the bill was designed "to modify the requirements applicable to locatable minerals on public domain lands, *consistent with the principles of self-initiation of mining claims*,"[31] H.R. 2579 contained no right of self-initiation and no clear right to mine any minerals discovered, for the following reasons:

---

[29] 1 American Law of Mining, 2nd Ed. § 20.03 (RMMLF 2021); see GAO Mining Data Report at pp. 1-2. Federal lands in Minnesota, which were not open to mining claim location under the Mining Law due to iron deposits identified prior to statehood, were added to the federal hardrock leasing system in 1950 after the 1948 discovery of the Duluth Complex copper-nickel deposits. 16 U.S.C. § 508b.

[30] 1 American Law of Mining, 2nd Ed. § 20.03[3] (RMMLF 2021).

[31] H.R. Rept. 116-467, 116th Cong., 2d Sess., p. 1 (Aug. 4, 2020)(emphasis added).

1. A "prospecting license" requires prior consent from the surface managing agency (most often the BLM or Forest Service).

2. As discussed in Part C. above, a "prospecting license" is subject to a "suitability" review (individually or in a land use plan) before it can be granted, which can be appealed by any party.

3. Prospecting permits are limited to two years, and extensions of up to four years are discretionary with the Department of the Interior. Exploration often requires 10 years or more, and there is no policy reason to arbitrarily limit the exploration period to two or even six years.

4. Most critically, issuance of a hardrock lease to mine any deposit discovered under a prospecting permit ***requires a second consent from the surface managing agency***, which consent can be denied, after many millions of dollars are spent exploring and discovering the deposit. In my 30 year experience evaluating and working with mining laws around the world, a second government consent imposed *after* discovery to obtain rights to mine the discovered deposit is a complete non-starter for mining companies to operate in that country.[32]

5. Hardrock leases are limited to a term of 20 years, extendible only if producing at the end of that period. If not producing due to market forces or any other reason, only one 10-year extension is available at the discretion of the Department of the Interior. This term will be inadequate to exhaust many hardrock deposits, given that exploration, feasibility studies, permitting and related legal challenges, and construction often take 10 to 20 years before the first ore can be mined.

6. Prospecting permits are limited to 2,560 acres and no person can control more than 20,480 acres of hardrock leases in one state. This is far below the acreage typically needed to explore for and identify hardrock deposits. These acreage limitations were apparently copied from other mineral leasing laws for coal, potash and other leasable minerals, without regard for whether acreage limitations make any sense for any of the hundreds of hardrock minerals.

The problems posed by the prospecting permit renewal, surface agency consent and lease term and renewal provisions of H.R. 2579 are not just hypothetical. They are currently the subject of ongoing, lengthy regulatory and court skirmishes involving the Twin Metals project in Minnesota, which includes two hardrock leases and 13 prospecting permits that are governed by the federal

[32] Approval of an operating plan or reclamation and environmental permitting prior to mining should be required. An unconditioned, discretionary surface agency veto on lease issuance *after* discovery of a mineral deposit should not. Many leasable minerals under the Mineral Leasing Act of 1920 grant a "preference right lease" to the discoverer of a valuable mineral deposit, but this approach was not adopted in H.R. 2579.

hardrock prospecting and leasing regulations on which H.R. 2579 is patterned. NEPA review and a follow-on lawsuit against the proposed four year extension of the prospecting permits have so far taken seven years, almost twice the length of the proposed permit extension. Two hardrock mineral leases were renewed by the Department of the Interior and the lease renewal was also promptly challenged in court and upheld after several years of appeals. After the regulatory approvals and litigation, the final extension of the leases is now approaching expiration after expenditures of more than $450 million. This demonstrates the economic risk of fixed-term leases similar to the H.R. 2579 proposal, and why many states and countries use claim location systems or indefinite lease terms or automatic extensions, as described in Part F below, so that all permitting and other concerns can be addressed without arbitrary lease expiration deadlines.

The above provisions of H.R. 2579 make it totally unsuitable as a substitute for the Mining Law. A likely outcome if these hardrock permit and lease restrictions are adopted is that only mining claims and mining operations currently producing on federal lands will continue, with perhaps some limited exploration in and around those mines by the current owners. There will be no incentive to perform greenfields exploration to discover new deposits of the additional critical minerals we need for the ongoing energy transformation and de-carbonization of our economy.

F. The Leasing System Proposed in H.R. 2579 Does Not Contain Elements That Make Mining Leases and Agreements Workable in Other States and Countries

There are many countries that use mining agreements, including leases, as their tenure system for acquiring mineral rights. However, the countries with the most competitive mining laws allow free entry (self-initiation) using mining claims or prospecting or exploration permits that have similar characteristics to the open to location system Mining Law.

The attractiveness to mining exploration companies of the Mining Law's current location system versus hardrock leasing or other agreements is reflected in the Fraser Institute's Annual Survey of Mining Companies, an annual survey that ranks mining jurisdictions around the world based on their geologic attractiveness and government policies.[33] Ten of the top 20 jurisdictions (out of 77 jurisdictions studied in the Fraser survey) use a claim location system, including the U.S. states of Nevada, Arizona, Alaska, Idaho, Colorado, and New Mexico, and the Canadian jurisdictions of Newfoundland & Labrador, British Columbia, Yukon and Northern Territory and Ontario.

[33] Annual Survey of Mining Companies 2020 (Fraser Institute 2021). Fraser surveyed approximately 2,200 exploration, development, and other mining-related companies around the world. Respondents represent an aggregate of $1.5 billion in annual mining exploration expenditures.

Most mining jurisdiction outside the United States use mining agreements (usually leases in British Commonwealth countries, often "concessions" in civil law countries) because all mineral rights in those countries are owned by the government, including all mineral rights under surface owned or controlled by private citizens First Nations or retained by the government. However, mining leases in Canada, for example, permit exploration and mining activities on surface owned by other parties, subject to notice and compensation for damage to the surface owners. Access rights and compensation are usually negotiated. In the U.S., "public domain" lands do not always have separately-owned surface, so the need for site-specific agreements that set forth respective mineral owner and surface owner rights are not necessary in each case and general laws have been passed to address potential surface owner and mineral owner use conflicts.[34]

The Canadian provinces and territories use a claim location system which allows free entry to prospect and explore on lands open for exploration, similar to the Mining Law, followed by a mining lease from the government to mine. Exploration is allowed for up to 10 years.[35] Mining Leases have terms of 10 to 30 years

Some Western U.S. states permit mining claims to be located on their state-owned lands. Nevada and Alaska, currently ranked 1st and 3rd in the Fraser survey, have state claim location systems. All Western states[36] have hardrock mineral leasing systems that provide for mineral leases to be extended indefinitely, except for Oregon (up to 50 years with 10-year increments) and Washington (20 years with a 20 year extension). Notably, all of these state land regimes have considerably longer terms than the permits and leases proposed in H.R. 2579.

Western Australia and Queensland are also in the top 20 mining jurisdictions in the world according to the Fraser study. In Australia, similar to Canada, mineral rights are vested in the Crown (government) and can only be granted by a State or Territorial government. These States use several types of agreements for mineral rights, including an exploration license/permit with free right of access for prospecting and exploration, and a mining lease awarded to the holder of a license/permit that discovers commercially valuable minerals. An interesting innovation in Australia is a "retention/mineral development license," which is an agreement that allows the discoverer of minerals to study whether development is economic and to postpone development until mining becomes commercially viable by making payments to the government.[37] Such an agreement addresses the concerns that a fixed-term mining lease or limited extension will not be sufficient for the lengthy mine development process. The retention license also allows a

---

[34] Certain laws, such as the Surface Resources Act of 1955 and surface entry regulations on private surface patented under the Stockraising Homestead Act, govern rights between mining claimants and other users of public lands. See, e.g., 1 American Law of Mining, 2nd Ed. § 4.19 (RMMLF 2021).

[35] See, e.g., "Mining Rights and Title in Canada," Cassels Brock & Blackwell LLP in Getting the Deal Through (Lexology 2021)

[36] These Western states include Alaska, Arizona, California, Colorado, Idaho, Montana, New Mexico, Oregon, Utah, Washington and Wyoming.

[37] See, e.g., "Mining in Australia: Overview," Baker McKenzie (Thompson Reuters Practical Law).

miner to temporarily suspend development in order to weather a downturn in the market.

If the Committee chooses to explore amendments to the location system of the Mining Law, these U.S. state and foreign approaches to mining leases and agreements might address some of the shortcomings of H.R. 2579 discussed above. There are other approaches that could be considered as well, if there was time. However, the primary issue, as discussed above, is that replacing the Mining Law location system at this time, even with a system well-designed to attract mineral exploration for critical minerals, will consume too much time to be consistent with the Biden Administration de-carbonization and energy transition goals. H.R. 2579 is certainly not a competitive or workable leasing system, and 14 years is simply not enough time to transition the Mining Law to a new system.

G. An 8% to 12.5% Gross Royalty Would Decimate Federal Production of Critical Minerals

I have twice testified before this Subcommittee on the subject of mining royalties and once before the Senate Energy & Natural Resources Committee. In the 15 years since my first appearance here, the following principles for considering a hardrock royalty on federal lands remain unchanged:[38]

1. Any royalty payment to the United States for hardrock minerals should be based on the value of the United States' ownership interest in the minerals. That interest is limited to the raw minerals in the ground. The United States makes land available for mineral exploration, but a royalty should not be paid on value added to the raw minerals by mining companies spending hundreds of millions of dollars to find, process, refine and sell the mineral products.

2. The purpose of the federal royalty is to encourage exploration and discovery across millions of acres of federal land which are not yet proven to contain mineral deposits. Compared to oil & gas and coal and similar bedded deposits like sodium and potassium, hardrock deposits are much harder to find and generally require much more extensive mining, processing and refining to produce salable products. This requires the incentive of a reasonable royalty.

3. There are two issues to consider when evaluating net and gross royalties - the royalty rate and the calculation of the amount against which that rate is applied (also called the "royalty base"). "[T]he definition of the royalty base is critical to understanding the rate.

[38] Please see my prior testimony before this Subcommittee for additional details. Legislative Hearing 110-46 on H.R. 2262, Hardrock Mining and Reclamation Act of 2007 (Subcommittee on Natural Resources Oct. 2, 2007); Statement of James F. Cress, Oversight Hearing: Seeking Innovative Solutions for the Future of Hardrock Mining (Subcommittee on Energy & Mineral Resources July 20, 2017)

When comparing royalty rates in different jurisdictions, care must be taken not to compare rates unless the royalty base is identical."[39]

4. Mining companies pay income and many other taxes in the United States and in the state where they operate. Any federal hardrock royalty discussion should focus not only on the amount of the royalty, but on the entire tax and royalty burden applicable to mining. The total "government take" (royalties, taxes and other fees) for mining operations in the United States is already comfortably within the range of other competitive mining countries, even without a federal royalty, based on the most recent global survey.[40] The Committee should ask the NAS or GAO to perform an updated global royalty study prior to imposing a royalty on hardrock mining, to ensure that the royalty is globally competitive to attract needed investment in critical minerals exploration.

5. James M. Otto, an independent expert on mining law, policy and economics who has advised dozens of countries on mining royalties and taxes, testified before this Subcommittee in 2007 that an 8% gross income royalty would be "one of the highest value based royalty rates I have encountered in my work." The 8% to 12.5% gross royalty proposed in H.R. 2579 would also be the highest government hardrock royalty I have ever encountered. It would also be substantially higher than any Western state hardrock royalty or severance tax, as found in the GAO's 2019 update to its 2008 report on Western state royalties and taxes on hardrock mining.[41]

6 Almost all of the western states already impose a severance or extraction tax on mining from private, state and federal lands. Any federal royalty will have to be added on top of these existing burdens, making it crucial that the royalty not be so high that the combined burden makes future mining uneconomic, negatively impacting state tax revenues and driving mining activity off of federal lands. This impact should be studied in coordination with Western states prior to proposing a new federal royalty.

7. Grandfathering claims with a valid discovery as of the date of enactment from the royalty is thus the minimum transition approach that is legally defensible, as Professor Leshy agreed in his prior testimony before this Committee.

Not only would an excessive hardrock royalty undercut new exploration on federal land, but it would cause some existing mines to close prematurely. A royalty of this magnitude is simply not consistent with increasing, or even maintaining current levels of critical minerals production to support the Biden Administration de-carbonization and clean energy goals. Decreased production will

[39] Otto, et al., *Mining Royalties: A Global Study of Their Impact on Investors, Government, and Civil Society* p. 62 (World Bank 2006)

also not generate revenue as desired for a proposed abandoned mine reclamation fund.

Conclusion

The proposal to convert the mining claim system to a mineral leasing system and the imposition of a gross royalty of 8% to 12-1/2% on existing and future hardrock mining operations on federal lands would have a dramatic and adverse impact on mineral production from federal lands. We simply cannot afford a decade or more of Mining Law transition delays at a time when increasing exploration for and production of minerals is critical to the transition to a low-carbon, clean energy future.

The Mining Law claim location system is not broken, even if it is almost 150 years old. In our important and urgent quest to transition to a de-carbonized and clean energy future, we can continue to rely on the combination of the Mining Law claim location system, the many amendments that have strengthened and clarified the law, and the modern public lands and environmental laws that complement it to achieve sustainable mining of critical minerals on federal lands. The true "legacy" of the Mining Law may be that it helps us achieve the modern goal of transforming our nation and economy to run on clean and plentiful energy.

I thank the Chairman, Ranking Member and the other Members of the Subcommittee for the opportunity to address this important public lands issue, and I am happy to answer any questions you may have.

---

[40] Otto, Batarseh & Cordes, *Global Mining Taxation Comparative Study*, 2d. Ed. (Institute for Global Resources Policy & Management Mar. 2000).

[41] Hardrock Mining: Updated Information on State Royalties and Taxes (GAO B-330854 July 16, 2019);Hardrock Mining: Information on State Royalties and Trends in Mineral Imports and Exports (GAO-08-849R July 21, 2008). The GAO state royalty and tax reports and my 2017 testimony before this Subcommittee also address the need for "apples to apples" comparison of the royalty base in any discussion of royalty rates.