Subcommittee on Energy and Mineral Resources Hearing on
The Hardrock Leasing and Reclamation Act of 2019
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I. Introduction

Mr. Chairman, Ranking Members, and members of the Committee, my name is Bob Comer. I am honored to testify today at the request of the Committee. I am co-head of Mining at the Norton Rose Fulbright US LLP law firm and former Associate and Regional Solicitor for the Department of the Interior. My career has been devoted to the conservation and protection of sensitive resources and the environment in the advancement of mineral resources and other land uses. I have served leadership roles in educational and professional organizations, having been the Natural Resources Practitioner in Residence at the DU law school, Chair of the ABA Mining Law Section, Chair of the CBA Natural Resource and Energy Law Section, a Trustee of the Rocky Mountain Mineral Law Foundation, and on the Advisory Boards of the CU Graduate Energy Management Program and Innovative Energy Initiative. My recognitions include an environmental achievement award from EPA for a pioneering Good Samaritan clean-up. I also serve as a reviser to the American Law of Mining Treatise.

Thank you for the opportunity to appear today to discuss the numerous policy challenges contained in the discussion draft of the Hardrock Leasing and Reclamation Act of 2019 (the "proposed legislation") and how they will adversely affect America's national security, energy future and social fabric by deterring, and in many instances eliminating, mining on federal lands.

The General Mining Law, as amended, governs how U.S. citizens may gain access to hardrock minerals (also known as locatable minerals) like copper, gold, silver, zinc, lithium, cobalt, rare earths, nickel, and other minerals on federal lands in the western states. These and other locatable minerals are essential building blocks of our economy, providing the essential foundation for infrastructure, technology, manufacturing, conventional and renewable energy, and national defense. No modern city, home, factory, computer, telephone, train, car, airplane or national defense system has ever been built or can be built without minerals.

The proposed legislation will harm the Nation because this bill as designed will reduce the mineral resources available to extraction on federal land. The bill severely limits access and tenure to the mineral resources on the Nation's public lands at a time when the national agenda demands minerals for national security, global economic competition, renewable energy development and to revitalize our infrastructure. If enacted, it would contribute to America's already alarming reliance on foreign sources of essential minerals – including the many hardrock minerals that are in cell phones and renewable energy applications like wind turbines, solar panels, electric vehicles and rechargeable storage batteries. The proposed legislation terminates mining claims, prohibits the staking of new claims, and creates an unworkable leasing system with arbitrary term and acreage limits that extinguish private property rights and expose the federal government to substantial takings litigation.

Although the bill is touted as a "modernization" of the Mining Law, it is hard to escape the irony that its essential feature is to cloak the adequately functioning Mining Law in a century-old mineral leasing law intended for development of very different types of mineral deposits.

II. The Hardrock Leasing and Reclamation Act of 2019 Will Increase America's Reliance on Foreign Minerals – Including Minerals Necessary for Developing Renewable Energy

The U.S. Geological Survey's 2019 Mineral Commodity Summary[1] shows the U.S. is 100 percent reliant on foreign countries, including Russia and China, for 18 important minerals such as the rare earth minerals that are needed to manufacture the magnets in wind turbines, and at least 50 percent reliant on imports from foreign countries for 30 other minerals. Our reliance on foreign minerals has been increasing at an alarming rate. For example, the USGS 1995 Mineral Commodity Summary[2] shows that we imported only two percent of the rare earths needed at the time. (See the two USGS mineral reliance charts at the end of this testimony).

Our increasing reliance on foreign minerals is not because America lacks domestic mineral resources. To the contrary, the U.S. is blessed with a rich mineral endowment, much of which is located on federal lands administered by the U.S. Bureau of Land Management (BLM) and the U.S. Forest Service where hardrock minerals are governed by the Mining Law. The dramatic decline in the production of domestic minerals is due in large part to unfavorable policies that have substantially chilled investment in domestic mineral exploration and development including measures that put more and more lands off limits to mining, and BLM's and the Forest Services' time-consuming permitting processes, which do not compare favorably to other mineral-rich countries like Canada, Australia, and Mexico that have much more practical mineral development and investment policies.

Given the country's current focus on renewable energy, it is especially important to recognize that the proposed legislation would severely constrain our ability to find and develop domestic sources of minerals that are needed to build renewable energy infrastructure. Solar panels require silver, tin, copper, and lead; wind turbines use rare earths, copper, aluminum, and zinc; electric vehicles are built with copper, aluminum, iron, molybdenum; and rechargeable storage batteries use lithium, vanadium, nickel, cobalt, and manganese. Approximately 40% of the gold now produced is used in electronics and computer chips that are an integral part of renewable energy technologies. These are all locatable minerals targeted by this proposed legislation.

Just last week on May 1st, the World Bank Group convened a conference in Washington, DC to discuss its recently published report, "The Growing Role of Minerals for a Low Carbon Future[3]," and to launch its "Climate Smart Mining/Minerals for Climate Action Initiative." Citing an article in Nature, the World Bank report states:

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[1] U.S. Geological Survey, 2019, Mineral commodity summaries 2019: U.S. Geological Survey, 200 p., https://doi.org/10.3133/70202434

[2] U.S. Geological Survey, 1996, Mineral commodity summaries 1995: U.S. Geological Survey, https://minerals/pubs/mcs/1996/nir.gif

[3]Arrobas, Daniele La Porta, *et al*, 2017, The Growing Role of Minerals and Metals for a Low Carbon Future, Washington, D.C., World Bank Group

> "A transition to a low carbon society, [is] a change that will require vast amounts of metals and minerals. Mineral resourcing and climate change are inextricably linked, not only because mining requires a large amount of energy, but also because the world cannot tackle climate change without adequate supply of raw materials to manufacture clean technologies." [4]

The World Bank report identifies 15 minerals that are critical for renewable energy. A comparison of the World Bank's list to the USGS 2019 Mineral Commodity Summary reveals that the U.S. relies on imports for 14 of the 15 renewable energy minerals – even though we have substantial deposits of many of these minerals. For example, the U.S. imports 32 percent of the copper we use despite the fact that there are significant copper deposits in Arizona, Utah, New Mexico, Nevada, Montana, Michigan, Minnesota, and Missouri. Electric vehicles use nearly four times the amount of copper as conventional vehicles, so we should expect the demand for copper to continue to grow to satisfy renewable energy expansion objectives. Experts estimate that the world will need the same amount of copper in the next 25 years that it produced in the last 500 years to meet global demand.[5] Renewable energy applications, including increased use of electric vehicles, accounts for some of this increased demand for copper. Similarly, we import 62 percent of the silver we use rather than relying on domestic silver deposits in Alaska, Nevada, and Idaho to meet our needs. Silver (and copper) are used to manufacture solar panels.

A peer reviewed study published by the American Institute of Professional Geologists[6] found that global supply and price issues constrain the availability of the strategic minerals needed for renewable energy. This study states that U.S. policies should support exploration and development of domestic sources of renewable energy minerals and notes that policies that limit mining will impede renewable energy objectives.

Obtaining these minerals from other countries is inconsistent with low carbon and renewable energy objectives because shipping renewable energy minerals to the U.S. increases their carbon footprint. Domestic production of renewable energy minerals would eliminate this carbon footprint. Another serious concern is that we rely on adversarial nations like Russia and China or countries with inferior environmental protection and worker health and safety laws as sources for some renewable energy minerals. In particular, cobalt sourced from the Congo is likely being mined with child labor.

III. A Total Overhaul of the Mining Law is Unwarranted Given Mining's Very Small Footprint on Federal Land

In discussing whether the dramatic changes to the Mining Law in the proposed legislation are warranted, it is important to understand how little federal land is currently being used for hardrock mineral activities. The sweeping changes proposed to the Mining Law must be evaluated in the

[4] Nature , Ali et al 2017, p. 367 as cited on page xvi of the World Bank report
[5] http://www.riotinto.com/documents/190409_Arnaud_Soirat_World_Copper_Conference_presentation_speech.pdf
[6] See Exhibit I, Burnell, J. R., *You Say Alternatives are the Answer…Let's Talk: Resource Constraints on Alternative Energy Development*, American Institute of Professional Geologists, *in*, The Professional Geologist, March/April 2009 pp. 33-37

context of the very limited footprint that mining has on federal land. When mining is put into proper perspective, it becomes clear how the far-reaching changes proposed in the Hardrock Leasing and Reclamation Act of 2019 are grossly out of proportion to mining's impact on federal land. In fact, the miniscule amount of federal lands being used for hardrock mining calls into question whether Congress should devote much effort to discussion about changing the Mining Law.

BLM's 2017 Public Lands Statistics[7] show that at the end of FY 2017, there were only 358,983 active mining claims distributed in the western states, with roughly half of these claims located in Nevada. (The number of claims in Nevada reflects the fact that if Nevada were a country it would be the fourth largest gold producing *country* in the world). BLM's annual public lands statistics show that since 2001, the number of active mining claims has fluctuated largely in response to commodity prices from a low of 203,354 claims in 2002 when gold prices ranged from about $278 to $349 per ounce to a high of 406,140 claims in 2012 when gold prices were as high as $1,789 per ounce.

Under the Mining Law, a lode mining claim is limited to a maximum of 20 acres. Thus, the aggregate footprint of the active claims in 2017 covered roughly 7.8 million acres, which is a minute fraction – less than one percent – of the Nation's 800 million-acre federal mineral estate. About half of this footprint is located in Nevada; the rest is scattered throughout the west. According to BLM, in 2017, there were 43,401 mining claims in Arizona covering 863,791 acres. By way of comparison, Maricopa County, Arizona covers roughly 9,224 square miles[8] or 5.9 million acres. The states of Alaska, Colorado, New Mexico, Oregon, and Washington each had fewer than 10,000 claims in 2017.

Even more revealing is that as of March 2019, BLM's LR 2000 database shows that the agency has authorized just 313,042 acres of surface disturbance on 587 mineral exploration and mining projects on mining claims located on BLM-administered lands throughout the west, with nearly 60 percent of the authorized surface disturbance located in Nevada. In Chairman Grijalva's state of Arizona, BLM has authorized a mere 3,465 acres of surface disturbance on 37 mineral projects.

Hardrock mineral activities affect a very small amount of federal land because hardrock mineral deposits are rare, and as such, very difficult to find. According to the National Academy of Sciences[9], 1,000 mineral targets must be identified and evaluated to discover a deposit that can become a mine. Given these daunting discovery odds, policymakers should be very concerned that current exploration levels are insufficient to discover the domestic minerals needed for our future. The limited domestic exploration for minerals is one of the key reasons why the country is so reliant on foreign sources of minerals.

The draconian changes proposed in the proposed legislation will exacerbate this problem by decreasing mineral activities on federal land. Rather than measures that eliminate or make

[7] *Public Land Statistics 2017*, Volume 202, June 2018, U.S. Department of the Interior Bureau of Land Management, BLM/OC/ST-18/001=1165, P-108-7

[8] https://en.wikipedia.org/wiki/Maricopa_County,_Arizona

[9] Hardrock Mining on Federal Lands, 1999, National Research Council, National Academy of Sciences, 247 p.

exploration and mining more difficult on federal land, this country needs policies to encourage responsible exploration and development of our mineral resources, consistent with the policy objectives in Section 102(a)(12) of the Federal Land Policy and Management Act of 1976, (43 U.S.C. 1701 *et seq*), the National Materials and Minerals Policy Research and Development Act of 1980 (30 U.S.C. 1601 *et seq*) and other laws.

IV. Previous Amendments to the Mining Law have Already Met Modern Policy Objectives

Proponents of the proposed legislation assert that the Mining Law is antiquated and thus requires radical amendments. But this characterization of the law is misleading and inaccurate because Congress has amended and updated the law many times since its enactment. In the past, Congressional actions to amend the Mining Law have preserved the Mining Law's core principles including the property rights created by efforts to identify and advance economic mining claims. The historical amendments to the Mining Law stand in marked contrast to the proposed bill, which guts these rights and replaces them with an unworkable and unrealistic leasing system.

A. The Minerals Leasing Act of 1920

The 1920 Minerals Leasing Act removed coal, petroleum, natural gas, phosphates, sodium, sulfur, and potassium from the Mining Law and established leasing programs for these resources while preserving the claim location system for hardrock minerals. Examining the scope of and historical implementation of the leasing system in the Minerals Leasing Act is very informative when compared to the leasing system proposed in the Hardrock Leasing and Reclamation Act of 2019.

The 1920 Minerals Leasing Act created a prospective leasing system that did not interfere with the Mining Law rights to oil and gas mining claims that existed on the date of enactment. Section 37[10] of the 1920 Minerals Leasing Act is a savings clause which preserved the property rights under the Mining Law on existing claims of oil, gas, and the other Minerals Leasing Act minerals that going forward would require a lease rather than a mining claim. The Section 37 savings clause allowed claim owners to continue to explore and develop their existing oil and gas mining claims, to make discoveries, and to secure patents to those claims under the provisions of the Mining Law.

In marked contrast, this proposed legislation contains no such savings clause for currently existing mining claims. The mandatory conversion of mining claims into leases will abruptly terminate the claim owners' current Mining Law property rights. By extinguishing claimants' property rights and substituting term- and acreage-limited discretionary leases, the proposed legislation will expose the federal government to Fifth Amendment takings claims.

B. The Mining and Minerals Policy Act of 1970

When Congress enacted the Mining and Minerals Policy Act of 1970, it declared that "it is the continuing policy of the Federal Government in the national interest to foster and encourage private enterprise in (1) the development of economically sound and stable domestic mining, minerals, metal and mineral reclamation industries, (2) the orderly and economic development of

[10]See *United States v. Locke,* 471 U.S. 84 (1985) and *Hickel v. Oil Shale Corp.,* 400 U.S. 48 (1970).

domestic mineral resources, reserves, and reclamation of metals and minerals to help assure satisfaction of industrial, security and environmental needs." (30 U.S.C. § 21a). The mineral directives in this Act apply to BLM-administered public lands and National Forest System lands. These are compatible objectives that operate to encourage deployment of privately-funded, domestic mineral production while protecting the environment.

C. The Federal Land Policy and Management Act of 1976 (FLPMA)

Congress made other important changes to the Mining Law when it enacted FLPMA in 1976. Among other things, FLPMA mandated a claim filing and recordation system to give BLM a mechanism to rid the federal lands of stale mining claims and created an environmental protection mandate prohibiting unnecessary or undue degradation (UUD) of public lands subject to mineral activities. When mining critics assert the Mining Law needs to be changed because it does not include environmental protection requirements they are ignoring how FLPMA significantly changed the Mining Law by inserting the UUD environmental performance standard, which specifically applies to mineral exploration and mining projects.

In 1980, BLM finalized the 43 CFR 3809 surface management regulations for locatable minerals to implement the FLPMA UUD mandate. The stated purpose of these regulations is to "[p]revent unnecessary or undue degradation of public lands by operations authorized by the mining laws [and to] establish procedures and standards to ensure that operators and mining claimants meet this responsibility... and reclaim disturbed areas." (43 CFR § 3809.1) The UUD provisions in the 43 CFR 3809 regulations contain explicit directives that mineral activities must comply with all applicable state and federal regulations to protect the environment and cultural resources, and satisfy a long list of environmental performance standards.[11] Prior to commencing mineral activities on public lands, project proponents must provide BLM with financial assurance (reclamation bonds) to guarantee that lands affected by exploration and mining will be properly reclaimed.

D. National Forest Management Act of 1976

The laws governing National Forest System lands are similarly protective. In 1976, Congress enacted the National Forest Management Act, which mandates a land use planning process that ensures mineral resource development is given proper consideration consistent with the mandate in the Mining and Minerals Policy Act of 1970 while minimizing resource conflicts and balancing environmental concerns. The Forest Service recognizes that minerals are usually hidden, relatively rare, and governs by land management planning procedures.[12]

The Forest Service's 36 CFR 228 Subpart A surface management regulations for locatable minerals include environmental protection measures that require operators of mineral exploration and mining projects to minimize adverse impacts on National Forest surface resources where feasible (36 CFR § 228.8). Like the BLM, Forest Service's surface management regulations provide comprehensive and effective environmental protection at mineral projects on National

[11] 43 CFR 3809 §§ .5, .401, .415, and .420
[12] https://www.fs.fed.us/geology/1975_mining%20in%20national%20forests.pdf

Forest System lands including requirements for financial assurance before activities can commence.

E. The National Materials and Minerals Policy Research and Development Act of 1980

In September 2016, the Government Accountability Office ("GAO") published a report entitled "Strengthened Federal Approach Needed to Help Identify and Mitigate Supply Risks for Critical Raw Materials."[13] This reported evaluated "certain metals, minerals, and other "critical" raw materials [that] play an important role in the production of advanced technologies across a range of industrial sectors and defense applications." The GAO report found several limitations in the scope of federal critical mineral programs that are inconsistent with the directives in the National Materials and Minerals Policy, Research and Development Act of 1980. (30 U.S.C. §§ 1602 – 1605), hereinafter referred to as the 1980 Act.

In the 1980 Act, Congress found:

> "the United States lacks a coherent national materials policy and a coordinated program to assure the availability of materials critical for national economic well-being, national defense, and industrial production, including interstate commerce and foreign trade." (30 U.S.C. § 1601(7).

In response to this finding, Congress declared:

> "…it is the continuing policy of the United States to promote an adequate and stable supply of materials necessary to maintain national security, economic well-being and industrial production with appropriate attention to a long-term balance between resource production, energy use, a healthy environment, natural resource conservation, and social needs." (30 U.S.C. § 1602)

The proposed legislation is completely inconsistent with the 1980 Act because it will significantly increase the country's reliance on the minerals needed for all sectors of the American economy, and to advance our renewable energy agenda. In fact, Section 401(b) of the proposed legislation specifically amends the 1980 Act to exempt National Forest System lands from the requirement to improve mineral data availability and analysis requirements in the 1980 Act, signaling the intention to drastically reduce and even eliminate mining on National Forest System lands. According to the U.S. Forest Service, "the National Forests contain much of the country's remaining stores of mineral."[14]

F. Enactment of Claims Maintenance Fee Requirements

In 1992, Congress made another significant change to the Mining Law using the appropriations process to establish an annual fee, the Claims Maintenance Fee, in lieu of the annual assessment work requirement in Section 28 of the Mining Law and to place a moratorium on patenting. As a result of this change, claimholders currently must pay $155 per claim to keep their claims in good

[13] GAO-16-699.
[14] https://www.fs.fed.us/geology/1975_mining%20in%20national%20forests.pdf

standing. This fee, which is adjusted every five years to reflect the Consumer Price Index will increase in 2019. By making timely payment of this fee, claimants secure the right to use and occupy federal lands, subject to compliance with the 43 CFR 3809 and 36 CFR 228A surface management regulations and all other applicable state and federal environmental protection regulations.

The Claims Maintenance Fee, which has been continued in annual appropriations measures since 1992, gives BLM a powerful land management tool that accomplishes several important objectives. First, it provides real-time information about where claims are located, who owns the claims, and whether the claims remain in good standing. Claims for which the fee is not paid by the August 31st fee payment deadline are categorically voided. Secondly, the substitution of a fee for the on-the-ground assessment work requirement has virtually eliminated unnecessary ground-disturbances associated with performing the annual assessment work that was previously required to maintain a claim in good standing. The fee has thus significantly reduced the environmental impact of mineral exploration activity. Third, the fee raises sufficient revenue to fund the Department of the Interior's Mining Law program, with leftover revenue that goes to the Treasury. BLM's Public Land Statistics show mining claimants paid over $65 million in Claims Maintenance Fees in FY 2017.

The 1920 Mineral Leasing Act, FLPMA, and the annual Claims Maintenance Fee are examples of how Congress has continually updated the Mining Law since its enactment in response to evolving land management requirements, and clearly demonstrate that the law is not antiquated. To the contrary, the Law as amended serves the country well. If the Law is amended in the future, the changes should be surgical and tailored to respond to specific land management objectives – and not a wholesale overhaul like that in the proposed legislation, which is completely unwarranted in light of the very limited use of federal lands for hardrock mineral activities and counter-productive to satisfying the Nation's demand for minerals.

Additionally, if changes are enacted, they should be prospective in nature – they must not be retrospective – to avoid exposing the federal government to takings claims. Congress recognized this in 1920 when it enacted the Minerals Leasing Act and removed oil, gas, and other minerals from the jurisdiction of the Mining Law. If this Congress elects to create a leasing program for what are currently locatable minerals, this change must be forward looking and not be imposed on existing mining claims.

G. The Myriad Environmental and Sensitive Resource Protection Laws

The proposed legislation also ignores the myriad laws that require all mines to protect the environment and sensitive resource values. Mines must comply for example with the laws protecting air, water, wildlife, endangered species, and wetlands, among other requirements, many of which exist at the local and state levels as well.

V. The Proposed Leasing System Interferes with Existing Property Rights and will Lead to Takings Litigation

An essential and unique element of the Mining Law is the "self-initiation" process, which allows U.S. citizens to enter federal lands open to operation of the Mining Law, to locate mining claims on lands that may have favorable geologic conditions for finding a mineral deposit. Once the claim is located, the claim owner can use the surface of a mining claim for mineral exploration and development purposes so long as they comply with the surface management regulations and other environmental protection requirements.

Self-initiation is especially critical to the prospecting and early-stage mineral exploration phases of the mining lifecycle when geologists continually test and refine their mineral target concepts and exploration techniques. Because exploration is an iterative process that uses new information to vector towards mineralized zones, the ability to expand a claim block based on new information is critically important. The 1 in 1,000 odds of making a discovery are akin to looking for the proverbial needle in the haystack and drive the need to preserve self-initiation to facilitate locating additional claims on lands with potentially favorable geology in response to the on-the-ground realities of exploring for rare mineral deposits that are very difficult to find.

Under current law, claim owners deploy private investment and take the initiative to locate claims based on preliminary concepts about where minerals may be located and then make substantial investments of time, knowledge, and money to test these concepts to explore for minerals on their claims with the hope of discovering a mineral deposit that can be developed into a mine. This self-initiation process greatly benefits our Nation because it effectively leverages private investments that transform undeveloped federal land into mining operations that create jobs, pay taxes, and provide the minerals the country needs – at no risk or expense whatsoever to U.S. taxpayers.

In contrast to the proposed legislation's introductory statement that it is "consistent with the principles of self-initiation," the proposal completely destroys self-initiation by eliminating the current mining claim system and substituting a discretionary leasing system. As proposed, the federal government will decide where geologists can look for minerals and where miners can develop mines. Eliminating mining claims and self-initiation is not in the public's best interest because it will severely compromise the Nation's ability to capitalize on private-sector investments to discover and develop domestic mineral deposits. It will significantly chill investment in the Nation's mineral resources and increase the country's reliance on foreign minerals.

The licensing and leasing acreage limits in the proposed legislation will only serve to discourage mining on federal lands. Mining companies that operate more than one mine in a given state currently own thousands of mining claims that cover their active mining operations. This describes the current situation in Nevada where several large mining companies operate numerous mines throughout the state. The 20,480-acre per company per state limit, which is the equivalent of only 1,024 mining claims, will require forfeiture of the private property rights on thousands of mining claims located within the boundaries of currently producing mining properties. This private property seizure will completely disrupt active mining operations and precipitate numerous takings claims as the government forces the premature closure of viable mining operations or the divestiture of lands that are part of productive mining operations. Then the government will have

to expend taxpayer funds to satisfy Constitutional taking claims without the benefit of any mineral production.

This property forfeiture is clearly not in the public's interest. Besides exposing the federal government to substantial takings litigation, this baseless extinguishment of private property rights will destroy the economic engines that sustain rural mining communities. Forced mine closures will kill high-paying mining jobs, deprive states and local communities of the tax revenues and other substantial economic benefits that the mines generate, and increase the country's reliance on foreign minerals.

The temporary and spatially constrained prospecting license in the proposed legislation is completely inappropriate and unworkable for hardrock minerals. Prospecting licenses have a primary term of only two years, with the possibility of a four-year extension, and cannot cover more than 2,560 acres, the equivalent of just 128 20-acre mining claims. To put this artificial acreage limit into perspective, most promising mineral exploration projects are typically comprised of several hundred to several thousand claims to give the owner the ability to conduct mineral exploration over a broad area with mineral potential.

The totally unrealistic time and areal constraints in the proposed draft bill will severely curtail if not virtually eliminate mineral exploration on federal lands. Because the exact location of hardrock mineral deposits is generally unknown, these deposits are difficult to find and discovery typically takes ten years or longer. Investment in mineral exploration will become even riskier and less attractive if an arbitrary and unrealistic term limit of two to six years is imposed on what is already a very high-risk endeavor.

If prospecting licensees are skillful and lucky enough to have discovered a valuable mineral deposit (a term that is undefined in the discussion draft), they may apply for a 20-year non-competitive mining lease if the surface management agency consents to issuance of the lease. By requiring the consent of the BLM or the Forest Service for issuance of a mining lease and providing no guidelines on when the agency is authorized to withhold its consent, the discussion draft creates a carte blanche opportunity for denial of lease applications with no opportunity for legal review as there is no standard to apply. This possibility puts at risk a company's entire exploration investment and creates uncertainty that will completely chill mineral exploration and development in the U.S. Companies will not be able to justify to their shareholders expenditures of the tens to hundreds of millions of dollars required to discover a valuable mineral deposit if there is no guarantee that they will have the right to develop those minerals.

The 20-year primary term lease is another serious barrier to mineral investment because it is not unusual for mines to operate for several decades. Without the assurance that a mine can continue to operate longer than 20 years, companies will be very reluctant to invest the hundreds of millions and sometimes billions of dollars needed to develop a mine. Together, this will lead to the collapse of a sustainable, viable mining industry, the jobs it provides and the societal advancements it makes possible.

Although creating a one-size-fits-all leasing process for hardrock minerals, coal, oil, gas, etc. might sound like a desirable policy objective, it fails to realize the significant geologic differences

between oil, gas, coal and hardrock mineral deposits that make a uniform hardrock leasing program untenable. Oil and gas are fluid minerals that occur in well understood sedimentary basins where geophysical surveys that do not disturb the surface can identify oil and gas targets with a high likelihood of success. Once an oil well is drilled, it can readily be modified into a production well.

In contrast, hardrock mineral deposits are solid minerals that occur in areas with much more complex geology and typically have unique geologic, geochemical, and metallurgical characteristics that distinguish them from other similar mineral deposits. Defining a hardrock mineral deposit requires extensive exploration and development drilling. Once drilling has sufficiently defined the deposit to support a decision to develop a mine, huge investments are required to build the mine and processing facilities. Therefore, the proposal to create a leasing system for hardrock minerals modeled after oil and gas leasing is ill conceived, impractical and unworkable.

VI. The Hardrock Leasing and Reclamation Act of 2019 Will Put More Land Off-limits to Mineral Exploration and Development

One of the stated drivers for the proposed legislation is to create mechanisms to say no to mining. We question the need for yet another way to put lands off-limits to mining when the federal government has already eliminated mining on half of the federal mineral estate.[15] Congress and the federal land management agencies already have established effective statutory and regulatory tools to prohibit mining on large swaths of federal lands. The suitability determination proposed in Section 112 is unnecessary in light of the numerous other mechanisms to segregate federal lands from mining. Additionally, no one group should be given the authority as proposed in Section 112 to declare lands unsuitable for mining.

Section 112 also is impractical because it creates a list of so called "special characteristics" that would deem an area unsuitable for mining. These special characteristics include fairly common and widespread features such as "any aquifer or aquifer recharge area," areas listed on the National Register of Historic Places, lands within or adjacent to National Conservation System lands or National Research Lands, lands with critical habitat, lands where ill-defined other "resource values" have been identified by field testing or "credible information," and lands containing tribal sacred sites. Other laws recognize the need to balance resource development and other land uses – the proposed legislation elevates virtually all other uses over mining.

This suitability determination will create an unlimited opportunity to put lands off-limits to mining which will further chill investment in mineral exploration and mining and increase our reliance on foreign minerals. Section 112 establishes a continual mechanism to expand the inventory of lands that cannot be explored or developed despite their mineral potential. The anti-mining NGO, Earthworks' press materials on the proposed legislation incorrectly assert that mining "enjoys nearly unfettered access on nearly all public lands." This is simply untrue. At a minimum, there are already over 350 million acres of land off-limits to mining. Access for mining purposes on

[15] *Public Lands, On-shore Federal and Indian Minerals in Lands of the U.S.: Responsibilities of the Bureau of Land Management,* Dec. 1, 2000.

lands that remain open to the Mining Law is hardly unfettered. It is governed by stringent surface management regulations to protect the environment.

In the last Congress, minority members of this committee asserted that the Hardrock Leasing and Reclamation Act of 2018 was necessary to: "[e]liminate the exalted status that mining currently enjoys on public lands [and to] level the playing field with all other uses of public lands…" This assertion ignores the numerous environmental protection regulations that govern hardrock mineral exploration and development and an essential geologic reality that hardrock minerals can only be mined exactly where they are discovered. The economics of developing hardrock mineral deposits are therefore very different from oil and gas, which may be able to withstand no surface occupancy restrictions and be produced from off-site well fields. Additionally, specific geologic features such as faults and folds typically play an important role in localizing and controlling mineralization. In contrast to oil and gas which occur over broad areas in geologic basins, hardrock mineral deposits have much more limited areal extents and knife-edge boundaries between mineralized and unmineralized rocks, necessitating a very precise location for the mine.

Sound public policies governing mineral exploration and development must consider these basic geologic principles. Current law does not confer an "exalted status" for locatable minerals. It does, however, consider the geologic reality that mines can only be developed where minerals are located and have been discovered. Changes to the Mining Law that are not responsive to this geologic reality will substantially chill investment in mineral exploration and mining, impede the development of the Nation's mineral resources, and increase our reliance on foreign minerals – including renewable energy minerals. These are not desirable outcomes.

Additionally, the law should not create post-discovery opportunities like the Section 112 suitability determination to declare the discovery site as unsuitable for mining and to eliminate the possibility of responsibly developing the mineral resource if the project proponent can demonstrate the mine will be able to comply with many state and federal environmental protection requirements. Mining critics ignore the significant state and federal environmental protection regulatory requirements applicable to all mineral exploration and development projects on federal lands. During the rigorous mineral project permitting process, project proponents must demonstrate that the proposed operation will comply with numerous stringent state and federal environmental protection requirements and environmental standards.

Using this permitting process, BLM, the Forest Service, EPA, and state regulatory agencies already have the authority to say no to mining if there are doubts that the project can meet specific environmental protection regulatory requirements. During the permitting process, regulators can require project proponents to go back to the drawing board to redesign a project to address concerns about environmental impacts. Additionally, the NEPA process requires detailed alternatives analysis to identify the project configuration that best eliminates or mitigates potential impacts. Numerous other federal environmental statutes also govern mining including but not limited to the Endangered Species Act, the Clean Air Act, the Clean Water Act, the National Historic Preservation Act, Archaeological Resources Protection Act, the Resource Conservation and Recovery Act, and the Comprehensive Environmental Response Compensation and Liability Act.

The current system achieves the appropriate balance between mine development and environmental protection. There is no exalted status. Rather, there is a rigorous demonstration that all aspects of the environment at a proposed mine will be protected. The suitability determination and the duplicative environmental provisions would completely upset this balance, making it much more difficult if not impossible to develop the mine if the lands are deemed unsuitable for mining.

Moreover, the federal government already has effective tools for putting lands off-limits to mining if an area is determined to be unsuitable for mining. Using existing statutory and regulatory tools, Congress and regulators have already permanently prohibited mining on half of the Nation's federal mineral estate. Regulators can also place 20-year moratoria on mining, such as the Department of the Interior has recently done at the Grand Canyon Arizona Strip by withdrawing these lands from operation of the Mining Law for 20 years.

The Section 204(c)(1)(H) prohibition against authorizing mines that require water treatment facilities that must operate for longer than ten years after mine closure is too limiting. At highly regulated and fully bonded modern mines, the investments made in water treatment systems to meet water quality criteria often can be viewed as a long-term asset that benefits the public long after mining has ceased. Under BLM's and the Forest Services' financial assurance regulations, mine operators must provide long-term financial assurance instruments to cover the operating costs for post-mining water treatment facilities. In some cases, these financial assurance instruments are designed to provide funding for in perpetuity operation of water treatment facilities. Post-mining water treatment facilities can also be passive in nature and assure the conservation of water resources.

Consequently, water treatment facilities are not necessarily a liability and pose no real risk to taxpayers. To the contrary, long-term, post-closure operation of water treatment facilities could provide a source of valuable clean water available for non-mining uses including but not limited to habitat enhancement, redevelopment of mine sites as renewable energy sites or other non-mining industrial uses, and even municipal water supplies in the arid west.

VII. The Royalty and Materials Disposal Fee Provisions in the Hardrock Leasing and Reclamation Act of 2019 are Unfair and Illusory

The proposed legislation establishes a royalty for production of minerals on federal lands. The mining industry has long asserted that a hardrock royalty program must be structured to promote a fair return to the public while at the same time ensuring the continued viability of hardrock mining on federal lands.[16] As discussed in detail below, the royalty provisions in the proposed legislation are seriously flawed and will not achieve the important objective of providing the American public with royalty revenues from hardrock mining, which can only be accomplished if mining on federal lands remains economically feasible. The numerous provisions in the proposed legislation that make mining impractical and even impossible will adversely affect mineral production and lead to a drastic reduction of mining on federal lands. Consequently, the royalty and fee revenues anticipated by the legislation are illusory.

[16] Exhibit II, James Cress' January 24, 2007 testimony before the House Natural Resources Committee/Energy and Natural Resources Subcommittee.

The proposed royalty would apply retroactively to mining claims located prior to enactment. The proposed legislation would require that existing claims be converted to new leases or forfeited. In many cases, existing claims have been held by companies and individuals for many years in reliance on their property rights and security of tenure under the General Mining Laws. Claimholders have advanced their claims at great expense through exploration, development, feasibility, financing construction, and in some cases to production. Either the imposition of a retroactive royalty or the forfeiture of claims entirely deprives claimholders and other stakeholders in the claims of property rights in violation of the Fifth Amendment.

The royalty and the material disposal fee in the proposed legislation will be new and additional costs that will impact project economics of every mine and likely make some currently operating mines uneconomic. They are certain to shorten the viable operating life of many mines, forcing premature closure of what would otherwise be profitable mining operations, which defeats conservation objectives. The immediate adverse economic impacts will be loss of high-paying direct jobs and the many indirect jobs that mines create, and tax revenues for local, state, and federal governments.

In addition, the royalty and materials disposal fee in the proposed legislation will surely impact projects on the drawing board by rendering projects economically infeasible. Many projects will not be funded and construction of mines and processing facilities will be deferred or cancelled.

Finally, as mines prematurely close and new mines are deferred or cancelled, the domestic supply of the minerals critical to the Nation will decrease and exacerbate our dependence on foreign sources of strategic and critical minerals indispensable to advancing the country's high-priority renewable energy, technology, and infrastructure agendas.

In light of this threat, the mining industry requests that the committee consider preparing an economic impact study of the proposed bill and pledges its assistance in the preparation of such a study.

A. Production Royalty

The bill imposes a royalty on the gross value of minerals or mineral products of not less than 12.5% of the gross value of the products derived from the lease. For producing mines that are forced to convert to a lease, the proposed legislation imposes a gross royalty of 8%.

As explained in detail in testimony presented to this committee in 2007 (see Exhibit II) and in 2017 (see Exhibit III), the mining industry has gone on record for many years as opposing a gross royalty like the royalty in the proposed legislation because such royalties are unfair and will significantly diminish mining on federal lands. As the industry has previously explained, (see Exhibits II and III), modeling a hardrock royalty after the coal, oil, and gas royalty programs is unworkable due to the substantially different geologic characteristics of oil, gas, and coal compared to hardrock minerals. Additionally, discovering and developing a hardrock mineral deposit requires a much larger investment of time and resources compared to oil, gas, or coal, which are much more abundant and easier to find and develop.

Royalty payments to the United States should be based on the value of the federal government's ownership interest in the minerals. Instead, the royalty base in the proposed legislation includes the mine operator's costs associated with the value-added mineral processing steps that are necessary to produce a salable mineral product. Including these costs in the royalty base is confiscatory and highly inappropriate. It also differs significantly from the ways in which states typically assess royalties and severance taxes as discussed in Exhibit III. [17]

The royalty in the proposed bill is a "gross royalty" calculated on the gross value of mineral products derived from leases. This gross royalty is unfair to the operator, because it includes the value added by the operator to process, refine, and produce a salable mineral product from the raw minerals removed during mining. Unlike oil and gas and coal operations, the raw minerals produced during mining are not salable; they must undergo costly processing steps to produce a product that can be sold. As a general proposition, it is important to understand that although federal royalties for oil, gas, and coal are simplistically called gross royalties, they are comparable to a net royalty because they are based on the value of the unrefined yet marketable products from an oil and gas well or a coal mine. (See Exhibit III, at 4 – 5).

The costs an operator must incur to produce a salable product from raw minerals should be deducted from the royalty base on which a federal royalty is calculated. The federal government's contribution upon which the royalty is based must be limited to the value of the raw, unrefined minerals and should not be inflated with the operator's costs once the minerals have been mined. A net income or net proceeds royalty based on the value of the minerals at the mine (or that allows deductions for transportation and processing costs to produce a marketable product) is fair to both the operator and the federal government, which is paid a share of the value of minerals at the mine consistent with the federal government's ownership interests in minerals on federal lands.

B. The Hardrock Leasing and Reclamation Act of 2019 Royalty Increases Financial Risk

Mine operators must pay production royalties out the margin between costs and realized price. Costs tend to vary from mine to mine, even for mines extracting the same commodity. In addition, costs tend to vary in a single mine over the mine life, as ore grades rise and fall and as the mineralogical characteristics change. Operators have no control over price, and little ability to insulate themselves from price fluctuations. As a gross royalty, the discussion draft takes a bigger bite out of the margins between cost and price, and therefore reduces the viability of the project. This greater risk constrains the availability of the project financing necessary to construct mines, and could make project financing unavailable altogether.

C. Retroactive Imposition of the Royalty on Existing Claims

The retroactive imposition of the gross royalty on existing claims will be highly disruptive to the structure of the industry today. Many projects in development or in production have relied on construction finance packages to construct the mine. The retroactive royalty has the potential to trigger immediate defaults of those credit facilities, creating serious financial problems for operators and mine financiers. However, it is important to understand that the 8% royalty on

[17] Exhibit III, James Cress' July 20, 2017 testimony before the House Natural Resources Committee/Energy and Natural Resources Subcommittee.

existing mines will affect more than just mine operators and the financial institutions that have provided mine financing. It will also affect BLM and the Forest Service because these agencies will be faced with mining operations that may be forced to close prematurely.

D. Administration's 2007 Statement of Policy

In November 2007, the Bush Administration issued a Statement of Administration Policy (SAP) stating: "The Administration believes that royalty provisions should be prospective, should avoid constitutional concerns, and should be set at a level that does not threaten the continued, reliable domestic mineral production on which this Nation relies." This statement is consistent with the mining industry's long-held position on royalties and amending the Mining Law.

The 2007 SAP expresses concerns that the retroactive royalty being considered in H.R. 2262, a Mining Law bill being considered by this committee during the 110th Congress, would expose the federal government to takings claims. As explained in the SAP, "The royalty structure in H.R. 2262 will likely generate Takings Clause challenges because it fails to take into consideration property rights relating to properly maintained claims established prior to enactment of the bill."

Because the royalty proposed in the proposed legislation is similar to that proposed twelve years ago in H.R. 2262, the same takings concerns are applicable. It is important to recognize that the universe of potential takings claims litigants goes beyond mine owners and operators and includes the entities that have provided mine financing and companies and individuals with third-party royalty agreements for these mines. It could potentially include states that currently derive royalty or severance tax revenues from hardrock mines.

VIII. The Hardrock Leasing and Reclamation Act of 2019 will Not Create a Viable Abandoned Mine Reclamation Fund

The proposed legislation creates a Hardrock Mining Reclamation Fund with the proceeds from royalty payments and the seven cents per ton displaced material reclamation fee in Section 303. This fund would be used to cleanup Abandoned Mine Lands (AMLs), which are historic mine sites that were developed prior to modern environmental protection and reclamation laws and regulations.

The problem with this fund is that it is illusory. The negative implications of the proposed legislation on mineral production that will diminish mining on federal lands will mean there will be insufficient mining to achieve the funding objectives.

For more than two decades, the mining industry has been seeking legislation to enable Good Samaritan reclamation of AMLs. Liability provisions in both the Clean Water Act (CWA) and the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) currently obstruct Good Samaritans from cleaning up AML sites. These liability concerns affect numerous stakeholders – local communities, conservation groups like Trout Unlimited, and mining companies alike.

Two Good Samaritan meetings in April 2019 in Reno, Nevada and Denver, Colorado discussed this problem. Participants in these meetings included state and federal regulators, conservation groups involved with limited AML cleanups, environmental and reclamation professionals, and mining companies. Although there is widespread interest in addressing the AML problem, CWA and CERCLA liability concerns are recognized as a serious obstacle. Good Samaritan legislation is clearly needed to facilitate reclamation of AML sites where there are water quality issues.

Maintaining a viable hardrock mining industry is an essential component of addressing the AML issue. Some historic, pre-regulation mine sites still contain mineral resources that could be developed into a modern mine by a new mining company that was not involved with the previous mining activities. Modern mining at an historic site creates an important opportunity to integrate the cleanup and remediation of historic, un-reclaimed mine features into a modern mine designed to protect the environment and achieve conservation objectives.

Taken together, the Hardrock Leasing and Reclamation Act of 2019 and CWA and CERCLA liability concerns will create an insurmountable barrier to AML cleanup. Mining projects on federal lands will be drastically diminished under the discussion draft. If the proposed legislation is enacted, mining operations that may be viable will be unlikely to undertake AML reclamation due to the CWA and CERCLA liability associated with old mine sites. The revenue stream for the Hardrock Mining Reclamation Fund will be insignificant and the AML problem will remain unresolved.

IX. Conclusion

I would like to thank this Subcommittee for the opportunity to testify on the important topic of hardrock mining on federal land, which has such far-reaching implications for all aspects of the country's economy, national security, energy use, infrastructure, technology, and manufacturing.

If you choose to amend the Mining Law in a way that provides a fair return to the public while preserving certainty and land tenure rights, and encourages private investment in finding, developing and producing domestic mineral resources, you will take an important step toward energy independence and a clean energy future and a stronger America.

However, if you enact the changes proposed in the proposed legislation, you will create uncertainty, discourage or eliminate private investment in U.S. minerals, prematurely close producing mines, export tens of thousands of high paying mining jobs and exacerbate an unhealthy reliance on foreign sources of minerals for national defense, manufacturing, infrastructure and clean energy.

I look forward to answering your questions.