Subcommittee on Energy and Mineral Resources Hearing
The Toxic Legacy of the 1872 Mining Law
July 27, 2021

Testimony of Debra W. Struhsacker
On behalf of
The Women's Mining Coalition

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I. The Minerals Crisis: The U.S. No Longer Produces the Minerals it Needs

The U.S. has a serious hardrock mining problem – but it is not a toxic legacy as the title of this hearing asserts. The problem is that U.S. mineral production is declining. The U.S. does not produce the minerals we need to achieve the Nation's clean energy objectives, keep our military strong, provide our manufacturing sector with essential raw materials, build and maintain crucial infrastructure, and strengthen domestic supply chains.

The Biden Administration's goals to reduce carbon emissions, phase out fossil fuels, and shift to carbon-free energy systems like wind and solar requires minerals – lots of minerals. Legislation to overhaul the Mining Law to with the goal to reduce and even eliminate mining on public lands is diametrically at odds with the Administration's clean energy objectives.

Rather than looking backwards to an era of bygone mining when there were no environmental laws – creating the so-called "toxic legacy," the focus of this hearing should be increasing environmentally responsible and highly regulated domestic mineral production to meet the urgent and growing demand for critical minerals for the clean energy revolution.

When two other Nevada women geologists and I started the Women's Mining Coalition in 1993 and traveled with over 40 other women to Washington, D.C. to explain how the House and Senate Mining Law bills in the 103rd Congress would harm the Nation, we had no idea that nearly 30 years later we would still be engaged in this debate. Today, the mining outlook is different than it was in 1993. Domestic mineral production has significantly declined and mineral imports have dramatically increased. Recent realizations about the vulnerability of our mineral supply chains and new information on the indispensable role minerals play in reducing carbon emissions underscores the minerals crisis we face given our dangerous dependence on other countries – some of which are hostile to our interests – to supply us with the minerals we need.

Since 1995, the U.S. reliance on foreign minerals has nearly doubled. In 1995 we imported 100 percent of just eight minerals and 50 percent or more of 16 minerals. Today, we import 100 percent of 17 minerals and 50 percent or more for another 30 minerals. At this rate, in another 26 years we will be completely or partially reliant on foreign countries for over 90 minerals.

This growing reliance on foreign minerals is not for lack of domestic mineral resources. The minerals on America's public lands are a precious endowment that could provide domestic sources of most of the minerals needed to strengthen domestic supply chains and achieve our clean energy objectives. Obtaining

minerals from domestic mines would ensure our minerals come from the cleanest and safest mines in the world because comprehensive federal and state environmental laws and regulations governing mining ensure a clean and safe environment at America's mines.

However, the protracted and litigious permitting process and Congress' perennial threats to overhaul the U.S. Mining Law[1] have eroded investor support for U.S. mining, diminished mineral exploration and development, and hollowed out our mining industry. The average mine takes fifteen years to advance from discovery to production[2]. The lengthy permitting process, which can take a decade or more, is fraught with risks and uncertainties that deter mineral investments.

Due to the currently unfavorable business climate for domestic mining, there are not enough operating domestic mines to fulfill today's demand for minerals or sufficient mineral exploration to find new mineral deposits that can provide the minerals we will need in the future. Improving the timeliness and predictability of the permitting process is essential to reducing the Nation's reliance on foreign sources of the critical minerals needed to achieve the Biden Administration's carbon emissions reduction objectives.

II. Increased Mineral Production is Essential to Expanding Clean Energy

The International Energy Agency (IEA) recently determined mineral production needs to quadruple by 2040 to meet the Paris Agreement's climate stabilization goals and predicts the demand for lithium will increase by over 40 times by 2040 to achieve these goals. The IEA states copper is the most widely used mineral in clean energy because it is the foundation for all electricity-related technologies.[3]

The U.S. relies on foreign sources for lithium and copper despite our abundant lithium and copper resources. We currently import 37 percent of the copper we use; in 1995, we imported just six percent of our copper. Today we rely on imports for over 50 percent of the lithium we need. In 1995, we did not import lithium.

The copper needed to build electric vehicles, (which use about four times more copper than conventional vehicles), EV charging station infrastructure, and the thousands of miles of new transmission lines that will be needed for nationwide electrification should come from domestic copper mines. Similarly, U.S. mines should supply the lithium, cobalt, nickel, and antimony needed to manufacture the batteries that power electric vehicles and electronic devices and store energy. Domestic mines should produce the rare earth metals required for wind turbine magnets. U.S. silver mines should provide the silver needed for solar panels and the gold used in all electronic equipment.

Yet despite the forecasted exponential increased demand for clean energy minerals, the House Natural Resources Committee and this Subcommittee are considering draconian changes to the U.S. Mining Law designed to make mining on public lands even harder than it is today. If the measures in H.R. 2579 from the 116th Congress become law, we will see further declines in domestic mining and increased reliance on China and other countries for minerals.

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[1] U.S. Mining Law, (30 U.S.C. §§ 21(a) *et seq*), also called the General Mining Law of 1872, hereinafter referenced as "the Mining Law."

[2] *The future of mining – Rocks and Hard Places*, The Economist, June 26, 2021 https://www.economist.com/business/2021/06/26/big-miners-capital-discipline-is-good-news-for-investors

[3] The Role of Critical Minerals in Clean Energy Transitions, pages 5, 8, and 135. https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions

III. The Biden Administration Recently Determined the Need to Increase Domestic Mineral Production

The White House's June 2021 report "Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth 100-Day Reviews"[4] evaluates supply chain vulnerabilities for critical minerals and materials and three other sectors. Several of the critical minerals findings in the White House report reveal serious concerns about the vulnerability of the domestic minerals supply chain and the economic importance of mining:

> "Strategic and critical materials are the building blocks of a thriving economy and a strong national defense. They can be found in nearly every electronic device, from personal computers to home appliances, and they support high value-added manufacturing and high-wage jobs, in sectors such as automotive and aerospace. These supply chains are at serious risk of disruption and are rife with political intervention and distortionary trade practices."
>
> "For more than a decade, the Department of Defense (DOD) has consistently found that although DOD has requirements for strategic and critical materials, essential civilian industries would bear the preponderance of harm from a disruption of strategic and critical materials supply."
>
> "Annual domestic mining activities, valued at less than $100 billon, enable more than $3 trillion in domestic value-added industry sectors, out of a $20 trillion economy. This contribution to downstream manufacturing and service sectors is indicative of the derivative value of strategic and critical materials. Strategic and critical materials impact hundreds of sectors of the U.S. economy."

This report clearly recognizes that mining provides the foundation of our economy and produces the raw materials that are at the core of our supply chains. Given the urgency to strengthen our supply chains by increasing domestic mineral production, this is an especially inappropriate time to upend the Mining Law. The draconian changes being contemplated by Chairman Grijalva and the Natural Resources Committee would take years to implement, and obstruct the Biden Administration's ambitious goal to reduce greenhouse gas emissions by roughly 50 percent compared to 2005 levels by 2030.[5]

In assessing how to reduce the Nation's reliance on foreign minerals and strengthen our critical minerals supply chains, it is important to understand that many critical minerals mainly occur in deposits of other more common minerals. A 2015 study from the Center for Industrial Ecology at Yale University[6] discusses the occurrence of by-product minerals in primary mineral deposits and illustrates these occurrences in the "Wheel of Metals Companionality" shown on Figure 1. As described in this study, the principal host metals form the inner, darkest blue circle. Companion elements appear in the outer circles at distances

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[4] https://www.whitehouse.gov/wp-content/uploads/2021/06/100-day-supply-chain-review-report.pdf

[5] https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/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/

[6] https://advances.sciencemag.org/content/1/3/e1400180

proportional to the percentage of their primary production (from 100 to 0 percent) of the host metal indicated. The companion elements in the white region of the outer circle are elements for which the percentage of their production from the host metal indicated has not been determined.

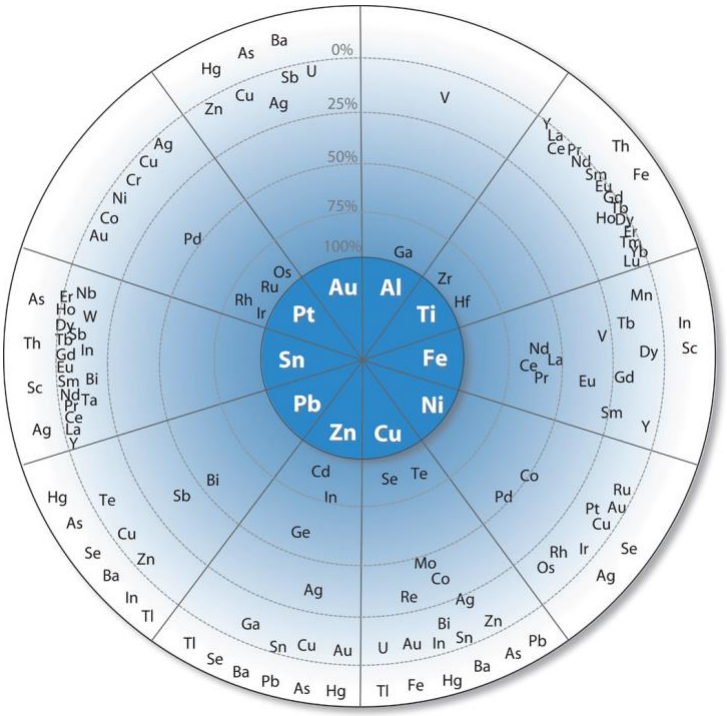


Figure 1. Wheel of Metals Companionality

The Wheel of Metals Companionality illustrates there are many primary metal deposits that have significant potential to produce important critical minerals as by-products or co-products. For example, antimony (Sb), is shown in association with primary (host) mineral deposits of gold, (Au), and lead (Pb). Copper (Cu) deposits are a host metal for several critical minerals including tellurium (Te), rhenium (Re), tin (Sn), cobalt (Co), bismuth (Bi), uranium (U), indium (In), barite (Ba), and arsenic (As).

Except for aluminum (Al), the U.S. has significant mineral deposits of all of the host metals shown in the inner, dark-blue circle of the wheel: titanium (Ti); iron (Fe); nickel (Ni); copper (Cu); zinc (Zn); lead (Pb); tin (Sn); platinum (Pt); and gold (Au). Consequently, the Nation's critical minerals and supply chain policies should emphasize developing critical minerals from domestic host mineral deposits in preference to obtaining critical minerals from foreign countries. Importing critical minerals from foreign allies should only occur if there are no viable domestic deposits. Chairman Grijalva's and the Committee's and Subcommittee's drastic changes to the Mining Law would substantially reduce exploration for and development of important host mineral deposits, further increasing our reliance on foreign countries for critical minerals.

IV. Modern Environmental Laws Ensure Today's Mines Protect the Environment

The title of today's hearing, "The Toxic Legacy of the Mining Law of 1872" indicates mining opponents are stuck in the past. By focusing solely on the environmental problems at mines that were operated long before the enactment of modern environmental protection laws and regulations, they distort the truth about today's highly regulated mining industry and overlook the important role that mining plays in our

economy, national defense and way of life – all of which thwart constructive dialogue about the Mining Law.

Looking in the rearview mirror to decades ago when there were no environmental protection regulations for mining – or other industries – will not help solve the country's current mineral crisis or produce the minerals needed to achieve President Biden's clean energy aspirations and rural infrastructure improvement goals. Turning backwards also detracts from effectively responding to the directive in the Administration's 100-Day Supply Chain report (see Section III) to evaluate reprocessing old mine wastes to provide valuable critical minerals and to facilitate reclaiming these sites.

Modern mines – just like manufacturing facilities and other industrial projects – must comply with many stringent and comprehensive state and federal environmental protection laws and regulations that require modern mines to be designed, built, operated, and closed with numerous safeguards to protect the environment. Unlike other industries, miners also must reclaim the land when mining is completed and provide state and federal regulators with reclamation bonds to guarantee the mine will be properly reclaimed. The bond amount is calculated on the basis of what it would cost the government to reclaim the mine.

In 2018, the U.S. Environmental Protection Agency (EPA) issued a final rulemaking for Section 108(b) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly called the "Superfund," that determined EPA did not need to develop a separate financial assurance program for the hardrock (metals) mining industry. Instead, EPA found that the Bureau of Land Management's (BLM's), the U.S. Forest Service's (USFS'), and the states' environmental regulations and financial assurance requirements effectively protect the environment at modern mining operations and guarantee that taxpayers will not have to pay to reclaim mines.

A. 120 Years of Mining Precede the Enactment of Environmental Laws

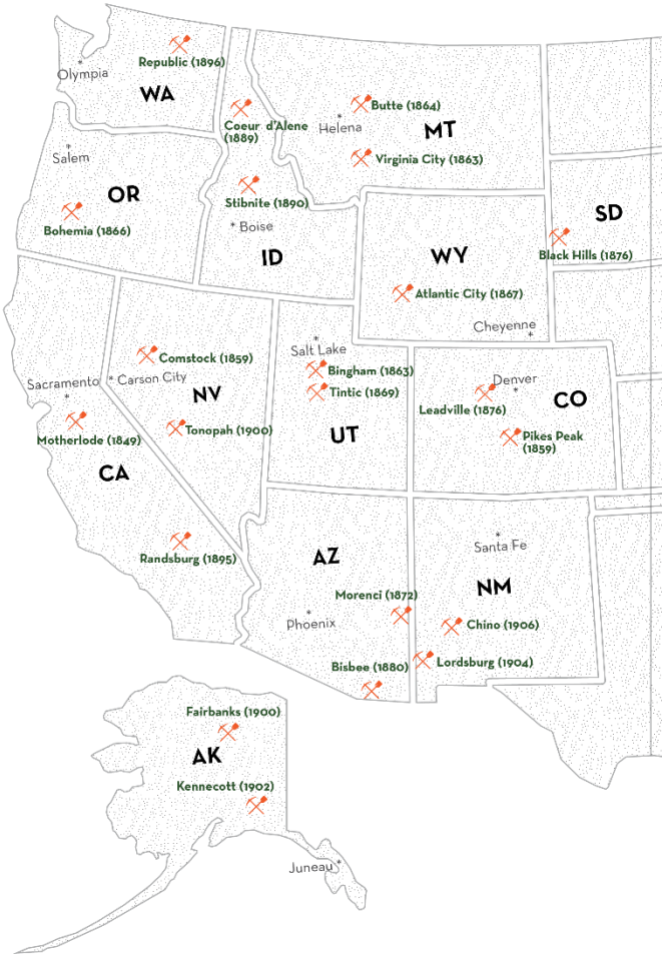
EPA's conclusions about modern mining practices disproves mining critics' claims that modern mines are not safe for the environment and reflect the enormous change that environmental regulations have had on today's mining industry. Prior to about 1960, there were no state or federal environmental rules governing mining or other industries. Mining started in the western U.S. in the mid-1800s and was completely unregulated for more than a century. Congress did not enact the country's first environmental laws until the 1960s. Most states did not start passing environmental laws until the 1970s and 1980s.

During this era of unregulated mining, gravity was the miner's best friend. Miners typically deposited mine wastes (mill tailings, waste rocks, and smelter slags) directly on the ground in the nearest valley or low area. Once the ore was exhausted or falling metal prices made mining unprofitable, miners commonly moved on to the next prospect and abandoned the old one, giving no thought to reclaiming the land.

While this lack of environmental protection and reclamation is unacceptable when viewed through the prism of our modern-day commitment to protect the environment, it is important to understand that mines of the past were no different than other contemporaneous industries that operated without any environmental controls. Past mining and industrial practices did not use environmental safeguards because protecting the environment was not on anyone's radar screen. Back then, society did not consider the long-term consequences of mining or other industrial and manufacturing activities.

As shown on Figure 2, there are many pre-regulation historic mining districts throughout the West, some of which are still operating today. These mines produced the metals that helped build America, tell the story of the development of the West, and helped win two world wars. Although we recognize the important history and heritage these mines represent, we are now left to deal with a difficult legacy of the safety hazards and environmental problems left behind.

Figure 2
Dates When Mining Started at Some Western Mining Districts



B. The Evolution of Modern Environmental Laws

The 1970s began a new era of environmental awareness as America celebrated the first Earth Day on April 22, 1970. In response to the country's new commitment to clean-up the environment and minimize the potential for future environmental pollution, Congress enacted numerous environmental laws in the 1970s and 1980s shown in Table 1. States quickly followed suit, enacting state laws to implement or complement the federal environmental statutes. Depending on the environmental site conditions at a given site, most or all of these laws govern modern mining operations.

In 1974, the USFS enacted surface management regulations for locatable minerals at *36 C.F.R. Part 228 Subpart A* to protect the environment at hardrock mineral exploration and mining projects on National

Forest System lands. The USFS regulations provide comprehensive environmental protection and require mine operators to minimize adverse environmental impacts whenever possible, and provide substantial financial assurance (reclamation bonds) to guarantee that mines will be reclaimed when mining is completed.

Table 1
Chronology of Enactment of Federal Environmental Protection Laws

Decade Enacted	Partial List of Federal Environmental Laws
1960s	National Historic Preservation Act Air Quality Act National Environmental Policy Act Wilderness Act Solid Waste Disposal Act
1970s	Federal Water Pollution Control Act Amendments Clean Air Act Clean Water Act Endangered Species Act Marine Protection, Research and Sanctuaries Act Federal Land Management and Policy Act Uranium Mill Tailings Radiation Control Act Safe Drinking Water Act Resource Conservation and Recovery Act Toxic Substances Control Act
1980s	Safe Drinking Water Act Amendments of 1986 Comprehensive Environmental Response, Compensation, and Liability Act Superfund Amendments and Reauthorization Act Archaeological Resources Protection Act Emergency Planning and Community Right to Know Act Water Quality Act Amendments to the Clean Water Act
1990s	Oil Pollution Act Hazardous Waste and Solid Waste Amendments Act Clean Air Act Amendments Safe Drinking Water Act Amendments of 1996
2000s	Small Business Liability Relief and Brownfields Revitalization Act

In 1980, BLM enacted surface management regulations for hardrock mining at 43 C.F.R. Subpart 3809 that require mineral exploration and development activities to prevent unnecessary or undue degradation. BLM significantly updated the 3809 regulations in 2001 to add financial assurance requirements, establish environmental performance standards that must be followed to comply with the mandate to prevent unnecessary or undue degradation, and provide authority for enforcement actions against non-compliant operators.

Prior to approving mineral activities on public lands, BLM and USFS must comply with the National Environmental Policy (NEPA) requirement to prepare either an Environmental Assessment or an

Environmental Impact Statement (EIS)[7]. Most mining proposals require the agency to prepare an EIS; many exploration projects can be authorized with an Environmental Assessment.

Generally speaking there are more hardrock mining operations on BLM-administered lands compared to National Forest System lands. As discussed below in Section VII, Nevada is the largest public lands Mining Law state. Over one-half of the country's 386,936 active mining claims are located in Nevada. BLM and the USFS have authorized under 200,000 acres of surface disturbance for mineral exploration and development activities in Nevada, which is less than 0.32 percent of the roughly 60 million acres of Nevada's federal minerals estate and clearly demonstrates mining is a minor use of public lands. Despite being the country's largest mining state, there are only 26 active metal mines in Nevada. These operations are fully bonded with over $3.3 billion in financial assurance instruments provided to BLM, USFS, and the Nevada Division of Environmental Protection to guarantee Nevada's mineral exploration and mine sites will be reclaimed.

C. Modern Mining Regulations Guarantee Environmental Protection and Reclamation

Current federal and state environmental regulations require mines to be designed, built, operated, and closed using effective environmental safeguards that provide comprehensive protection for all environmental resources and minimize the potential for environmental problems to develop during mining and after mining is completed. In order to comply with these regulations, mines use state-of-the-art environmental protection technologies including liners, water treatment facilities, air emission control equipment, and environmental monitoring systems.

In striking contrast to old mining practices, modern mines in the U.S. carefully manage mine wastes and use liners and covers to isolate these materials from the environment. Whereas tailings at old mines were typically deposited directly on the ground or into streams and rivers, tailings storage facilities at modern mines are designed to minimize seepage and interaction of the tailings with surface water and groundwater resources.

The powerful combination of comprehensive and effective environmental regulations and financial assurance requirements is what led the EPA to conclude in 2018 that the environmental regulations and financial assurance requirements for mining fully protect the environment and that a new EPA program would be duplicative and unnecessary. EPA based its decision on a detailed analysis of the scope and effectiveness of federal and state environmental protection and financial assurance rules for hardrock mining:

> "EPA has analyzed the need for financial responsibility based on risk of taxpayer funded cleanups at hardrock mining facilities operating under modern management practices and modern environmental regulations…[T]he degree and duration of risk associated with the modern production, transportation, treatment, storage or disposal of hazardous substances by the hardrock mining industry does not present a level of risk of taxpayer

[7] Initial exploration projects that disturb fewer than five acres of BLM-administered lands can typically qualify for a Notice that does not require BLM to prepare a NEPA document. However, BLM reviews Notice applications to ensure that sensitive resources will not be impacted and to establish the financial assurance (reclamation bond) amount that the applicant must provide before any surface-disturbing activities commence.

> funded response actions that warrant imposition of [additional EPA] financial responsibility requirements for this sector."[8]

EPA's decision distinguishes between problematic past mining practices that are no longer lawful and modern practices, stating that legacy contamination at sites operated before the development of modern environmental regulations are not relevant in assessing the potential for environmental risks at existing and future mines. EPA's rulemaking explains that it is inappropriate to point to environmental problems at historical, pre-regulation facilities and assert that modern, heavily regulated mines do not pose similar risks:

> "…the primary determinant of risk is how current operations at the mine are conducted, including the current regulatory regime under which they operate…EPA has determined that modern regulation of hardrock mining facilities…reduces the risk of federally financed response actions to a low level such that no additional financial responsibility requirements for this industry are appropriate."[9]

EPA's final rule cites information that BLM and USFS provided to Alaska Senator Lisa Murkowski in 2011 that showed no mines permitted since 1990 on BLM- or USFS-administered lands had been added to the National Priorities List (NPL), which is EPA's list of hazardous waste sites eligible for long-term remedial cleanup financed under its Superfund program. During the 1990 to 2011 timeframe, BLM approved 659 Plans of Operation and USFS approved 2,685 Plans of Operation.[10] The fact that no mines permitted by either agency since 1990 are on the NPL is compelling proof that modern mining regulations are successfully protecting the environment at mines on federally-managed lands throughout the country.

EPA's rulemaking docket[11] includes the chart shown in Figure 3 documenting that most of the mines on EPA's NPL started mining in the mid- to late-1800s, more than 100 years before the enactment of today's environmental protection laws and regulations or the use of modern environmental protection technologies. The peak of NPL sites in the 1940s and 1950s includes many mines that the federal government operated to support the military during World War II and the Korean War.

Figure 3 clearly demonstrates the dramatic success that modern regulations have had in preventing environmental problems at today's mines and debunks mining opponents' claims that problems at old, pre-regulations sites can be used to forecast what will happen at modern, highly regulated mines. The Barite Hill Mine, which is not on federal lands and was authorized by South Carolina state agencies, is the only mine that has been added to the NPL since 1990. As discussed in EPA's final rulemaking, this mine started operating before South Carolina updated its mining act. EPA found that: "similar mines operating in South Carolina today under the current regulations would have significantly reduced risks of unpermitted releases and taxpayer liability."[12]

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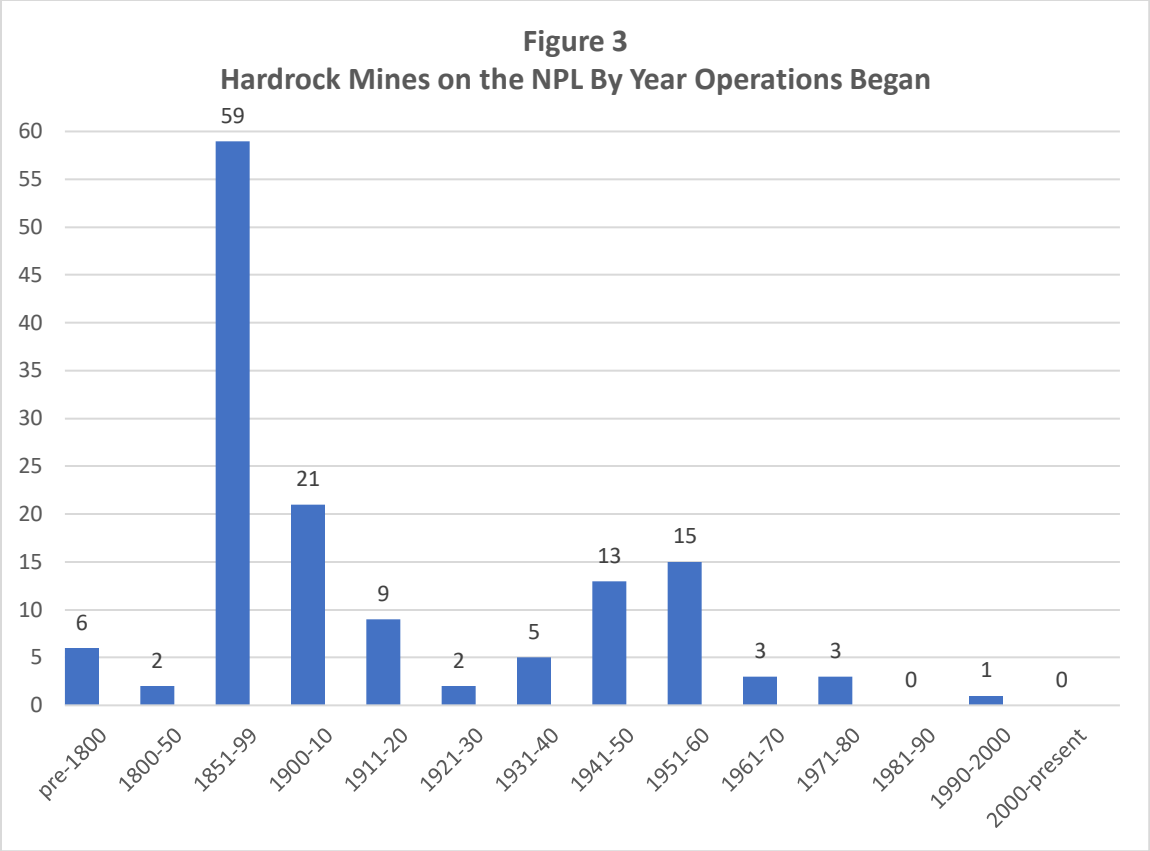
[8] U.S. EPA Financial Responsibility Requirements Under CERCLA Section 108(b) for Classes of Facilities in the Hardrock Mining Industry, Federal Register, Vol. 83, No. 35, February 21, 2018, pp. 7556 – 7588, at p. 7556. https://www.govinfo.gov/content/pkg/FR-2018-02-21/pdf/2017-26514.pdf

[9] Federal Register Vol. 83, No. 35, pp. 7564 - 7565.

[10] Federal Register Vol. 83, No. 35, p. 7568. The USFS requires a Plan of Operation for small exploration projects, which explains the larger number of USFS Plans of Operation compared to BLM.

[11] https://www.regulations.gov/document?D=EPA-HQ-SFUND-2015-0781-2794 at page 35.

[12] Federal Register Vol. 83, No. 35, pp. 7582-7583.



EPA's 2018 final rulemaking has withstood judicial review. In *Idaho Conservation League et al versus Andrew Wheeler and the U.S. Environmental Protection Agency*,[13] the U.S. Court of Appeals for the District of Columbia agreed with EPA's findings and upheld the agency's decision that a new financial assurance program for the hardrock mining industry was unwarranted. In July 2019, the Court denied the Petitioners' request for the Court to vacate EPA's final rulemaking.

D. Financial Assurance Provides Regulators with Funds to Reclaim a Bankrupt Mine

The environmental problems at some legacy mines are attributable to bankrupt operators who did not reclaim their mines. Today's financial assurance requirements for mines completely eliminate this problem from happening in the future because state and federal regulators will have the necessary funds to reclaim a mine if the operator goes bankrupt or for other reasons fails to reclaim the site. As EPA found in its 2018 CERCLA 108(b) final rulemaking, problems due to operator bankruptcies are a relic of unregulated and, in some cases, inadequately bonded mines in the past.

As explained in EPA's final rulemaking, federal and state regulators currently have adequate reclamation bond funds if a mine operator goes bankrupt. The amount of required financial assurance is based on what it would cost BLM, USFS, or the state agency to hire third-party contractors to reclaim the site in accordance with the site's approved closure and reclamation plan. Each mine's closure and reclamation

[13] USCA Case USCA Case # 18-114, https://www.cadc.uscourts.gov/internet/opinions.nsf/EE3F3054B78C5C228525843C0051989A/$file/18-1141.pdf

plan and financial assurance requirement are based on a detailed and site-specific evaluation of the closure and reclamation costs for that site. The sufficiency of reclamation bonds must be reviewed and adjusted on a regular basis to make sure the required financial assurance amount keeps pace with inflation and on-the-ground conditions.

EPA's final rulemaking determined that the Standardized Reclamation Cost Estimator (SRCE) software developed in Nevada provides a robust methodology for calculating the cost for the BLM, USFS, or a state agency to step in and reclaim a mine.[14] Because a SRCE-calculated Reclamation Cost Estimate assumes that the reclamation work is being conducted by a federal or state governmental agency, it generates very comprehensive financial assurance requirements that include the following:

- Third-party contractor costs based on Davis-Bacon prevailing wage rates established by the U.S. Department of Labor for the area in which the mine is located;

- Indirect agency costs including a surcharge of approximately 40 percent on top of the direct costs to cover the agency's costs to manage the third-party contractors' reclamation work;

- Costs to manage the process fluid inventory (i.e., fluids in ponds and tailings storage facilities) that must be dealt with before a site can be closed and reclaimed;

- Costs to perform regular monitoring, sampling, and inspection throughout the mine closure and reclamation phases of the mine life, which may last several decades; and

- Long-term financial assurance requirements if site-specific conditions require long-term operation of water treatment systems, other environmental controls, or site monitoring. At some sites, long-term financial assurance mechanisms are designed to provide the funding necessary for perpetual care and maintenance of the reclaimed mine site.

Based on these assumptions, EPA found that reclamation bond amounts calculated with a SRCE or comparably robust model eliminate the concern that taxpayers will be responsible for paying reclamation costs.

E. Monitoring, Inspection, and Reporting Provide Real-Time Environmental Information

State and federal regulations require mine operators to conduct detailed and frequent monitoring to confirm that the mine's environmental protection systems are functioning properly and to verify the mine is complying with all of its permits. The environmental monitoring systems and reporting requirements in a modern mine's operating permits are real-time, early-warning systems that provide regulators and operators with indicators of a possible environmental problem such as a release of a hazardous substance. This is an important difference between today's highly regulated and carefully monitored mines and old unregulated mines that operated without environmental protection measures or any environmental monitoring.

Examples of the environmental monitoring requirements at a modern mine include frequent (and in some cases continuous) collection of data on surface water flows and groundwater levels, surface water and groundwater quality, air quality, project air emissions, wetlands conditions, the health of wildlife and

[14] Federal Register Vol. 83, No. 35, p. 7573.

aquatic habitats, and other environmental indicators documenting the environmental conditions at the mine and in the surrounding area. If project monitoring data indicate there may be a problem, the regulations require the operator to investigate the potential problem and remediate a confirmed problem. For example, if monitoring data find an unexpected presence of a potential contaminant, the operator must immediately launch an investigation. If this investigation indicates a malfunction that may be causing a release of a contaminant, the mine operator has to take steps dictated by regulators to fix the problem and respond to the release.

The monitoring and corrective response action requirements at modern mines stands in marked contrast to pre-regulation sites where an environmental problem causing contamination of nearby streams and groundwater may have gone undetected for decades. The monitoring systems at today's highly regulated mining operations provide meaningful and contemporaneous information about the performance of the site's environmental controls and reveal if there may be a problem that needs to be investigated straightaway, preventing a small problem from becoming a bigger problem. Monitoring and environmental performance data are provided to regulatory agencies on a regular basis in reports that are available to the public. The monitoring and reporting systems at today's mines also mean the length of time during which a problem remains undetected is limited, which helps reduce the magnitude of the problem. Additionally, regulators have the authority to revoke or suspend an operator's permits for failure to respond properly to a documented environmental problem.

F. Modern Mining Regulations Anticipate Contingencies and Extreme Events

Modern regulations also require mine operators to design and operate their facilities to withstand low-probability but high-risk events like an earthquake, a flood, or other situations that could create an emergency. For example, mining facilities are specifically designed to be able to withstand the ground shaking and vibration from an earthquake with a magnitude based on the seismic hazard rating for the mine site plus a safety factor. Mine facilities must also be designed to manage the precipitation and runoff from storms with specified duration and intensity, known as "design storm events," such as 100-year and 500-year storms. Tailings storage facilities, process ponds, and other water impounding structures must be designed with excess water storage capacity (called "freeboard") to maintain water levels below the tops of the impounding structures so there will not be a spill from these facilities.[15]

V. Stakeholder Engagement and Collaboration During Mine Permitting and Operation

Proponents of additional consultation requirements ignore the great lengths to which many mining companies go to interact with stakeholders during project permitting. Modern mining companies are committed to working collaboratively with community and tribal stakeholders to make a proposed mine the best possible project for the area's environment and people.

As explained below, stakeholder engagement dialogues between mining companies, communities, and tribes is already achieving productive and collaborative outcomes. The consultation provisions in H.R. 2579 would create cumbersome and duplicative requirements that would slow down the permitting process.

[15] The mining industry is supporting significant efforts worldwide to improve how tailings facilities are designed, operated, and monitored to eliminate potential failures.

The stakeholder engagement and outreach efforts underway at mines that are currently in the permitting process and at operating mines clearly demonstrate the mining industry's commitment to work with a broad array of stakeholders to listen to their suggestions for and concerns about a proposed project. There are many examples of how working collaboratively with stakeholders has resulted in important improvements and refinements of a project proponent's proposed mining Plan of Operations to reduce project impacts, preserve public access, enhance environmental outcomes, and identify ways to benefit local communities.

Stakeholder engagement lasts for the duration of the permitting process and continues once a mine is operating. It is not unusual for mining companies and community and tribal leaders to establish formal advisory groups that meet on a regular basis to focus on addressing community concerns about a proposed or operating project and identify mutually beneficial opportunities for sustainable development measures to repurpose project infrastructure (e.g., roads, transmission lines, pipelines, water treatment facilities, etc.) to provide jobs and tax revenues to local communities after mining is completed. A commitment from all parties to frequent collaboration and communication often solves problems and develops initiatives that bring long-term benefits to communities and tribes.

These stakeholder engagement efforts are a business standard for today's mining companies and executives who realize building and operating a metal mine today is about more than creating shareholder value by excavating rocks and making metals. It involves an equally important focus on creating benefits for the communities where mines are operated, which requires a strong commitment to Environmental Social and Governance (ESG) values. ESG accountability starts with C-Suite corporate executives and directors. Chief Executive Officers and Boards of Directors take responsibility for developing, implementing, and overseeing ESG programs and corporate social responsibility initiatives.

Shareholder ESG demands and expectations partially drive companies' focus on ESG programs. But the commitment to ESG goes far beyond responding to shareholders and extends to the needs of the communities where a mine's workforce lives. Mines must be able to attract a qualified workforce to live in nearby communities that are safe and welcoming places to raise a family and that offer good schools, medical and emergency services, adequate shopping, recreational opportunities, and other public services and amenities.

Because many gold, copper, silver, zinc, and other metal mines are located in rural and remote areas with limited job opportunities and public services, a mining operation represents a community's and even a region's best opportunity to improve the quality of life for everyone. Many mining companies make substantial financial investments in their local communities to build or improve schools, upgrade roads and Internet services, subsidize medical services, offer vocational training to prospective employees, and provide scholarships and other educational opportunities for their workforces. These investments represent voluntary donations in addition to the state and local taxes the mines pay.

A mine's medical clinic and health care facilities may be the only medical services for many miles in some remote settings. At a March 3, 2021 Senate Committee on Environment and Public Works hearing, Alaska Senator Dan Sullivan presented Figure 1 from a JAMA Internal Medicine study[16] showing a widespread and substantial increase in life expectancy in some rural Alaska Native communities during the period 1980 to 2014. Senator Sullivan attributed the increased life expectancy to the contributions that oil, gas,

[16] https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2626194

and mining have made in rural areas to improve the quality of and access to medical services and to build clean water and sanitation facilities.

The input many companies seek from stakeholders during project permitting is completely separate from the formal government-to-government consultation process that federal agencies must conduct with Indian tribes during development of a NEPA document. These stakeholder dialogues with communities and Indian tribes typically start at the early stages of project planning and development so companies can share information about a proposed project and listen to the communities' and tribes' values, concerns, and goals for their future.

Many mining companies make a special effort to engage tribes in early and frequent dialogues with the objective of addressing tribal concerns and finding common ground to work together on programs to benefit tribes. Examples of beneficial outcomes from dialogues with Native American communities include

- Workforce development initiatives
- Training facilities
- Environmental restoration projects
- Environmental and cultural resources monitoring programs
- Ethnographic and ethnohistory research projects
- Business arrangements and agreements
- Education funding and scholarship programs
- Culture and language preservation programs.

Table 2 lists examples of the many positive outcomes resulting from mining company stakeholder engagement programs with communities and tribes and demonstrates that the consultation requirements proposed in Chairman Grijalva's Mining Law reform principles would create a superfluous process that would delay and complicate the permitting process.

Table 2
Examples of Mining Company - Stakeholder Engagement Results

Partial List of Benefits Resulting From Community and Tribal Engagement
Education:
Scholarships and educational benefits and assistance
Partnerships with K-12 schools, universities, and community colleges
Teacher technical and leadership training
STEM (science, technology, engineering and math) recruitment and educational programs
Support for at-risk students
Inclusive education initiatives to ensure educational equity for women, girls, and people of color
Summer youth employment programs and for Native American teens to teach workforce skills
Student internships and job shadowing
Academic assistance to high school students
Employment:
Local and tribal employment commitments
Job and occupational training

Partial List of Benefits Resulting From Community and Tribal Engagement
Environment:
Conservation easements
Environmental restoration and improvement projects
Company-funded independent community environmental sampling and monitoring programs
Community:
Community Advisory Boards
Good Neighbor Agreements
Community improvement grants
Community foundations
COVID 19 response measures to provide PPE, food assistance, and cash donations
Small business grants and loans to support economic development and diversification
Profit-sharing agreements so to benefit communities during and after mining

VI. Congress Does Not Have the Necessary Data to Make Informed Decisions about the Mining Law

As part of the debate over changing the Mining Law, Congress needs to know how much mining occurs on public lands, how much public land remains open to location, and how much of the public domain has already been withdrawn from operation of the Mining Law. Unfortunately, this information is difficult to obtain as the U.S. Government Accountability Office (GAO) found in its May 2019 letter report to U.S. Senator Tom Udall entitled *Hardrock Mining: Availability of Selected Data Related to Mining on Federal Lands*[17]. This GAO investigation asked the Department of the Interior (DOI)/Bureau of Land Management (BLM) and the Department of Agriculture (USDA)/U.S. Forest Service (USFS), for information on 16 hardrock mining data elements and found the agencies had no information on six elements.

GAO discovered that the USFS keeps track of the federal mineral estate withdrawn from mineral entry under the Mining Law whereas the BLM does not. Neither agency could provide information on the total acres of federal lands available for hardrock mining under the Mining Law in the agencies' existing land management plans. Congress thus does not have some of the basic land use data needed for a thoughtful, well-informed discussion of the Mining Law.

The lack of available land management data from BLM and USFS was a shortcoming noted 22 years ago in the National Academy of Sciences'/Natural Research Council's (NAS'/NRC's) 1999 report entitled *Hardrock Mining on Federal Lands*[18]:

> "The lack of information [about the existing program] appeared to be greatest among highly placed officials who have the greatest need to know. Consequently, those responsible for regulatory management and change, and for keeping the public and Congress adequately informed, appear to be severely limited in their ability to do so."[19]

[17] https://www.gao.gov/products/gao-19-435r

[18] This report responded to a Congressional request that NRC assess the adequacy of the regulatory framework for hardrock mining on federal lands.

[19] NRC/NAS Report, page 13.

Based on GAO's findings, it appears the situation has not changed much since 1999. There is still a lack of important information necessary for evaluating mining on federal lands, how the current surface management regulations are working, and how much land remains subject to the Mining Law.

The White House's 100-Day Review report establishes an interagency team to identify gaps in statutes and regulations that Congress may need to update. This directive is similar to the review Congress asked the NRC/NAS to perform in 1999. Rather than starting with a blank page, the Women's Mining Coalition suggests that the newly directed task force use the 1999 NRC/NAS as a foundation for its evaluation.

Some of the findings from the 1999 study include:

- The overall structure of the federal and state laws and regulations that provide mining-related environmental protection is complicated but generally effective;

- The structure reflects regulatory responses to geographical differences in mineral distribution among the states, as well as the diversity of site-specific environmental conditions;

- Federal land management agencies' regulatory standards for mining should continue to focus on the clear statement of management goals rather than on defining inflexible, technically prescriptive standards; and

- BLM and the USFS should continue to base their permitting decisions on the site-specific evaluation process provided by NEPA.

The study made a number of recommendations for how implementation of the regulations could be improved and identified five gaps that needed to be filled. BLM and USFS have filled four of the five identified gaps through rulemaking and policy directives[20]. The fifth gap, which recommended changing existing laws and regulations "to allow and promote the cleanup of abandoned mine sites in or adjacent to new mine areas without causing mine operators to incur additional environmental liabilities," remains unfilled mainly because it requires Congressional action.

As discussed in Section XII, future appropriations bills could stipulate that Mining Law holding fees not needed for BLM's Mining Law administrative program should be used to clean up abandoned mines. However, the liability issues associated with abandoned mines thwart abandoned mine remediation and restoration and have created a decades-long disincentive affecting both public- and private-sector entities who would otherwise get involved in cleaning up these sites.

The above-discussed White House report suggests reprocessing mine wastes as a potential source of critical minerals and directs collaboration with states, tribal nations, and non-governmental organizations on reclaiming mine wastes.[21] The Women's Mining Coalition hopes Congress will soon enact liability relief to enable public- and private-sector reprocessing and reclaiming of mine wastes as a source of critical minerals and facilitate restoring abandoned mine sites.

[20] NRC/NAS Report, *op cit*, pages 7 – 9.
[21] White House Report, *op cit* page 197.

VII. Nevada Mining Data Demonstrate the Limited Amount of Mining on Federal Lands

Although BLM and the USFS may not be able to provide all of the relevant data that would be optimal for a factual and thorough evaluation of the Mining Law, the Nevada Division of Minerals (NDOM) and the Nevada Bureau of Mines and Geology (NBMG) compile detailed information about mining in Nevada, the country's largest mining state[22], that can inform this dialogue and serve as a qualitative proxy for data from other mining states.

NBMG's data show there were only 26 operating metal mines in Nevada in 2019[23]. Most of these mines produced gold; many also produced silver. Two mines produced copper; one mine produced molybdenum; and one mine produced lithium. Another 37 Nevada mines produced industrial minerals in 2019, some of which were locatable mineral mines on BLM- or USFS-administered lands. Because 75 percent of Nevada is comprised of public lands administered by BLM (67 percent) and the USFS (8 percent), most Nevada mines occur solely or partially on public lands.

In addition to having the highest value of non-fuel mineral production in 2020, Nevada also had the highest number of mining claims. Over one-half of the country's 386,936 active mining claims are located in Nevada as shown in Table 3, which presents information on the number of active mining claims and Plans of Operation in the western mining states where there are public lands open to mineral entry under the Mining Law.

NBMG's data clearly show mineral production in Nevada has declined over the past several years. In 2019, Nevada gold mines produced just under 4.87 million ounces, which was a 12.8 percent decrease from 2018. This was the first time Nevada's gold production fell below 5 million ounces since 2014. Nevada gold production started declining from a high of roughly 9 million ounces in 1998 to its current level of about 5 million ounces annually.[24]

Nevada mining operations have a small footprint on the overall Nevada landscape. GAO's May 28, 2020 letter report to Chairman Grijalva[25] shows BLM and the USFS have authorized 191,889 acres of surface disturbance for both mining and mineral exploration Plans of Operation in Nevada[26], which is less than 0.32 percent of the roughly 60 million acres of the federal minerals estate in Nevada.

These Nevada mining statistics are important to the Mining Law dialogue because the outcome of the debate about changing the Mining Law will have the biggest impact in Nevada, the state where most of the mining on public lands occurs. The limited number of mines and the small footprint of mining activities on Nevada public lands signals the Mining Law debate is about a minor use of the Nation's public lands. These metrics should inform future dialogues about if and how the Mining Law should be amended.

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[22] U.S. Geological Survey, 2021, Mineral commodity summaries 2021: U.S. Geological Survey, 200 p., Table 3 and Figure 4, https://doi.org/10.3133/mcs2021.

[23] Muntean, J.L., Davis, D.A., and Ayling, B., 2020, The Nevada Mineral Industry 2019: Nevada Bureau of Mines and Geology Special Publication MI-2019, 254 p., page 3, https://pubs.nbmg.unr.edu/The-NV-mineral-industry-2019-p/mi2019.htm

[24] Muntean *et al, op cit ,* Page 3.

[25] Mining on Federal Lands, GAO-20-461R, May 28, 2020, https://www.gao.gov/products/gao-20-461r

[26] *Ibid,* Page 7.

Table 3
FY 2019[27] Active Mining Claims, Plans of Operation Reviewed* and Acres of the Federal Mineral Estate[28]

State	Active Mining Claims	Plans of Operation Reviewed *	Federal Mineral Estates (Millions of Acres)
Alaska	6,230	6	218.6
Arizona	47,478	2	33.9
California	20,979	4	50.9
Colorado	10,287	3	29.6
Idaho	23,252	5	37.0
Montana	12,139	2	39.4
Nevada	196,307	36	60.3
New Mexico	10,016	0	35.9
Oregon	9,042	3	33.9
Utah	21,289	3	54.3
Wyoming	29,897	12	41.1
Totals	**386,936**	**76**	**634.9**

*The Plans of Operation numbers includes Plans for both mineral exploration and mining projects. Most mining Plans of Operation are for exploration projects.

Compared to Nevada, the other western states with lands subject to the Mining Law have fewer mining claims and Plans of Operation as shown on Table 3. Mines in these states impact even less land than mining's footprint in Nevada. GAO's May 2020 report shows BLM and the USFS have authorized a total of 317,783 acres of mineral-related surface disturbance throughout the eleven western Mining Law states[29], which is a miniscule 0.05 percent of the federal mineral estate subject to the Mining Law (Table 3).

Interestingly, the 1999 NRC/NAS report found that mineral activities were affecting approximately 0.06 percent of BLM administered lands[30]. These data indicate that for more than two decades, mineral exploration and mining operations have had a miniscule impact on public lands. This extremely limited amount of mineral activity has produced the current minerals crisis. There is not enough domestic mining to meet our current demand for minerals or sufficient exploration on U.S. public lands to discover the mineral deposits that can become the mines the Nation will need in the future.

This small amount of public lands being used nationwide under the Mining Law should establish the contours of future legislative dialogues about changing this law. Congress should carefully consider the minute scale of the lands impacted by mining and the dwindling mineral production statistics in Nevada, the largest public land mining state, in future legislative dialogues about changing the Mining Law. Finding ways to reverse this decline – especially in light of the urgent and growing demand for critical minerals for the clean energy revolution – should be the focus of this legislative evaluation.

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[27] https://www.blm.gov/sites/blm.gov/files/PublicLandStatistics2019.pdf, Tables 3-22 and 3-23.
[28] https://www.blm.gov/sites/blm.gov/files/PublicLandStatistics2019.pdf, Table 1-3.
[29] 2020 GAO, https://www.gao.gov/assets/gao-20-461r.pdf
[30] NRC/NAS report, page 19.

The mineral leasing, environmental permitting, land use restrictions, and royalty and taxation measures proposed last session in H.R. 2579 would accelerate the mining industry's decline and ensure the U.S. will eventually become completely dependent on foreign minerals. Enacting these policies would be completely inconsistent with the Administration's recent directives to increase domestic mineral production and would make strengthening America's supply chains and achieving our clean energy objectives with domestically-mined minerals impossible.

VIII. Putting More Lands Off-Limits to Mining Will Increase Reliance on Foreign Minerals

The GAO's May 2019 letter report states BLM does not know the percentage of the federal mineral estate that has already been withdrawn from mineral entry under the Mining Law. This is an important piece of information that needs to be part of the dialogue about whether to put additional lands off-limits to mining. The Substantial Irreparable Harm concept embraced by House Natural Resources Committee Chairman Grijalva and some members of this Subcommittee creates a mechanism to designate lands ineligible for mining, facilitating *de facto* land withdrawals. (See Section X)

NDOM's data show roughly 19.5 percent of Nevada's public lands are designated for conservation or preservation purposes, making them partially or completely off-limits to mineral activities. It would be inappropriate to develop additional legislative or administrative ways to set aside more western public lands from operation of the Mining Law without first knowing how much of the federal mineral estate in the Mining Law states is already unavailable for mining.

Former DOI Solicitor, John Leshy, recently presented data showing that out of the 600 million acres of reserved public lands, roughly 400 million acres are set aside for conservation and preservation purposes and are thus functionally off-limits to mining. According to Professor Leshy, during the period from 1980 to 2020, the acres of conservation and preservation lands grew from 250 million to 400 million.[31] These statistics show that existing land withdrawal and conservation measures are effective in setting aside lands, calling into question why a new mining-specific tool, like the SIH provision discussed in Section X, is warranted. Before inserting land withdrawal provisions into the Mining Law, Congress should evaluate whether additional land withdrawal tools are necessary and if it is sound public policy to bar mining on additional lands, keeping in mind that mining has impacted just 317,783 acres (roughly 0.05 percent) of the Nation's federal mineral estate subject to the Mining Law, as discussed in Section VI.

IX. Permitting Delays, Costs, and Uncertainties Have Caused Mining's Decline

Recognizing the urgency to increase domestic production of critical minerals, two lawmakers have recently introduced legislation to improve and streamline the permitting process for hardrock mineral exploration and mining projects. Congressman Mark Amodei and several co-sponsors have reintroduced the National Strategic and Critical Minerals Production Act (H.R. 3240). Chairman Manchin's Energy Infrastructure Act, includes a section entitled "Critical Minerals Supply Chains and Reliability" (Section 2006) that specifically finds "the Federal permitting process has been identified as an impediment to mineral production and the mineral security of the United States" and calls for improving the quality and timeliness of the Federal permitting and review processes. This bill directs the Department of the Interior/BLM and the Department of Agriculture/USFS to:

[31] John D. Leshy, *America's Public Lands – A Look Back and Ahead*, 67th Annual Rocky Mountain Mineral Law Institute, July 19, 2021.

- Complete the Federal permitting and review processes with maximum efficiency and effectiveness;

- Establish and adhere to timelines and schedules in reaching final permitting and licensing decisions;

- Set clear, quantifiable, and temporal permitting performance goals;

- Develop a permit tracking system to measure progress in achieving permit performance goals;

- Minimize delays by engaging in early collaboration with project sponsors, agencies, and stakeholders;

- Use cost-effective information technology to disseminate information to ensure transparency and accountability;

- Avoid conflicts or duplication and resolve concerns through early and active consultation with state, local, and tribal governments;

- Allow concurrent rather than sequential reviews; and

- Achieve demonstrable improvements in the Federal permitting process, including lower costs and more timely decisions.

X. The House Natural Resources' Mining Law Principles Ignore the Nation's Need for Critical Minerals

Unfortunately, the provisions in H.R. 2579 and the objectives enumerated in the April 27, 2021 letter Chairmen Grijalva and Lowenthal sent to the Secretaries of the Interior and Agriculture are at cross-purposes with Congressman Amodei's and Chairman Manchin's permit streamlining legislation and the Biden Administration's directives to strengthen domestic mineral supply chains. Chairman Grijalva's and the House Natural Resources Committee's Mining Law Principles would complicate and further delay the mine permitting process, duplicate procedures and requirements already in place, and ensure further decline of the U.S. mining industry. Some of the more problematic aspects of the Chairman's Mining Law Principles are discussed below.

A. Substantial Irreparable Harm

Chairmen Grijalva and Lowenthal's endorsement of the Substantial Irreparable Harm (SIH) provision proposed in the 2000 version of the 3809 regulations[32] would worsen the shortage of domestic minerals and further increase our reliance on foreign minerals. SIH creates a project-specific *de facto* land withdrawal process that gives mining opponents a powerful tool that can be used at the eleventh hour during the permitting process to petition that lands in a permit application be put off-limits to mining. It creates a continual mechanism to expand the inventory of lands that cannot be explored or developed

[32] The current 43 CFR 3809 surface management regulations for hardrock mining became effective in 2001 and do not include SIH.

despite their mineral potential, which will further chill investment in mineral exploration and mining and increase our dependency on mineral imports.

SIH is tantamount to Lucy and the football. It yanks the rug out from underneath a company's project, creates intolerable uncertainty for mining proponents, and puts the hundreds of millions of dollars already spent to discover and permit a proposed mining project at risk. Using SIH to upend the permitting process could create regulatory takings that could potentially expose the federal government and taxpayers to Fifth Amendment takings claims.

SIH proponents ignore the existing regulatory requirements and environmental performance standards that effectively safeguard the environment at today's mines. Modern mining regulations prohibit approving a project that would create unnecessary or undue degradation on BLM-administered lands (43 C.F.R. § 3809.5) or that fails to minimize adverse environmental impacts on National Forest surface resources (36 C.F.R. § 228.8). In addition to these surface management regulations, the numerous federal environmental laws listed in Table 1 and state laws and regulations also protect the environment at mining operations.

There are existing statutory and administrative tools for withdrawing truly exceptional lands where there is a compelling and demonstrable public interest in barring mining on these lands. SIH essentially jettisons the existing rigorous land withdrawal processes that appropriately consider broad public interests in determining whether lands are more valuable for their mineral resources or for scenic, cultural, recreational or other land uses. (As discussed in Section VIII, roughly 400 million acres of public lands are currently protected from mining and other development.)

Instead, SIH gives individual stakeholders and special interests a mine veto without any attempt to balance their interests with the broader public interest. Given our urgent need for domestic sources of critical minerals, it would be unwise to create a new process for designating lands that contain valuable critical minerals like lithium, copper, antimony, nickel, cobalt, rare earths and others off limits to mining without giving equal consideration to the country's needs for these minerals.

B. Consultation

The Chairmen's demand for more consultation ignores the NEPA requirement to carefully and thoroughly evaluate alternatives to a mining company's proposed project in the Environmental Impact Statement (EIS) federal agency must prepare for the project. The public plays a pivotal role in evaluating alternatives analysis during the NEPA process by providing comments on a proposed project during scoping for the EIS and public comment periods for the draft and final documents. NEPA also requires evaluating the impacts that the proposed project and project alternatives would have on environmental justice.

It is not uncommon for the NEPA alternatives analysis process to identify different locations for project facilities and operating procedures that could reduce a project's environmental impacts, and to develop measures to address community concerns about preserving public access; reducing traffic, noise, and visual impacts; maintaining dark skies; managing demands on emergency services and schools; selecting access routes to avoid environmentally and culturally sensitive areas; and many other issues identified as important to the public.

Because public involvement is at the heart of the NEPA process, the public is engaged in every step of this process starting with project scoping, which is one opportunity for the public to suggest project

alternatives, to reviewing the draft and final EIS documents. This commitment to public involvement guarantees a transparent permitting process that gives the public full access to the environmental baseline studies and other relevant information.

In addition to NEPA's public involvement mandate and procedures, NEPA and Section 106 of the National Historic Preservation Act require BLM and the USFS to seek input from tribal governments in a formal government-to-government consultation process. As discussed in Section V, many mining companies make special efforts to seek input from Indian tribes near the project area that is separate from the government-to-government consultation process.

Perpetua Resources Inc.'s proposed Stibnite Gold Project on the Payette and Boise National Forests in Valley County Idaho is a current example of how the public involvement and NEPA alternatives processes have modified and fine-tuned the Company's proposed mining project in response to public concerns, comments, and suggestions for the USFS' August 2020 Stibnite Gold Project Draft EIS. After reviewing the nearly 10,000 public comments on this draft, the Company modified its project proposal to address public comments and capitalize on the public's suggestions for how to enhance the project.

The environmental improvements in Perpetua Resource's modified project proposal incorporate public comments on the Draft EIS on ways to: reduce surface disturbance and the volume of materials to be mined; backfill an additional pit; eliminate a waste rock storage area; modify the mineral processing circuit to improve the chemistry of the tailings; and design stream restoration measures to reduce maximum water temperatures in order to enhance aquatic habitat conditions. In response to these changes, the USFS recently announced it will prepare a Supplemental Draft EIS to evaluate these project improvements and two of the access road alternatives considered in the Draft EIS.

Although preparing the Supplemental Draft EIS will delay the project permitting timeline, Perpetua Resources has announced the Company supports the USFS' decision to take a hard look at its proposed refinements to the project, noting:

> "This is NEPA at work. For more than five years, the [Stibnite Gold] Project has been refined through a process of continual review and input from regulatory agencies, the public and other project stakeholders. The DEIS and the subsequent public comment period helped illuminate areas for even more improvements and that valuable input will now be closely analyzed by the U.S. Forest Service and cooperating agencies to further inform the final project design and approval. The result will be a project that is an improved version of the original plan with reduced disturbances, better water quality, and features that are more sustainable in the long-term. Most importantly, the enhancements advance the company's original vision of restoration through mining and supplying the nation with the critical mineral, antimony."[33]

If permitted, this project would become the Nation's only domestic source of antimony which is used in next generation, liquid-metal utility-scale storage batteries. The project also includes significant environmental restoration measures to remediate the impacts of pre-regulation, World War II-era mining

[33] https://perpetuaresources.com/wp-content/uploads/2021/07/Perpetua-Resources-Modified-Proposed-Action-Overview-July-1-2021.pdf

when the federal government mined tungsten and antimony at Stibnite to support the war effort. The planned restoration measures will improve surface water and groundwater quality and allow salmon to migrate to their native spawning grounds in the upper reaches of the East Fork of the South Fork of the Salmon River for the first time in over 80 years.

Despite the urgent need for antimony, the existing permitting and NEPA analysis and consultation requirements dictate this ongoing and thorough public consultation and review process. The outcome will be a project where both the Company and the USFS used public comments to fine-tune the Stibnite Gold Project to make it the best possible project for the site and local communities.

The NEPA alternatives analysis for the Stibnite Gold Project clearly demonstrates that NEPA creates both a requirement and an incentive for project proponents, stakeholders, and agencies to work together to scrutinize project alternatives to identify the most beneficial project for the environment and communities. There is no need to reinvent the consultation process by inserting new, complex and duplicative consultation procedures into the Mining Law

C. Enforcement

Chairman Grijalva's list of Mining Law deficiencies expresses concerns that regulators do not have the authority to compel mine operators to comply with the conditions in a mine's Plan of Operation and other project permits and expresses the viewpoint that the current enforcement provisions are inadequate. This reflects a lack of understanding of the strong compliance mandates and enforcement provisions in existing federal regulations including but not limited to the federal Clean Water Act, Clean Air Act, Resource Conservation and Recovery Act, the Endangered Species Act, Archaeological Resources Protection Act, and the states' regulations for mining. State environmental regulations also require compliance with project permits and can pursue enforcement actions against a non-compliant operator.

BLM's 43 CFR 3809 surface management regulations for locatable minerals include the following enforcement measures that authorize BLM to:

- Issue suspension orders for failure to comply with the mandate to prevent unnecessary or undue degradation mandate. (43 CFR 3809.601);

- Revoke Plans of Operation for compliance failures, (43 CFR 3809.602);

- Ask the United States Attorney to institute a civil action in United States District Court for an injunction or order to enforce its order and collect damages resulting from unlawful acts. (43 CFR 3809.604); and

- Assess criminal penalties including fines of up to $100,000 and imprisonment of up to 12 months for individuals and fines of up to $200,000 for organizations.

Based on my knowledge and experience, BLM rarely has to pursue these enforcement measures because the vast majority of today's mine operators place a high value on complying with their operating permits.

D. Eliminating Mining Claims and Substituting a Leasing System

The primary purpose of the Mining Law is to give claim owners the necessary security of land tenure to justify the enormous investments required to explore for minerals and develop mines. Substituting the leasing system proposed in H.R. 2579 will eliminate land tenure security, significantly reduce mineral exploration and development on public lands, and increase U.S. reliance on foreign minerals. Upending the mining claims system by requiring mandatory conversion of life-of-mine claims with time-limited leases is an ill-conceived, impractical, and unworkable proposal that will interfere with the Biden Administration's policies to increase domestic mineral production in order to strengthen domestic supply chains and provide the minerals needed to build clean energy infrastructure.

The current mining claims system is an effective way for the public to benefit from private-sector investment in mineral exploration and development projects. Under current law, U.S. citizens can 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 process, which is known as self-initiation, greatly benefits our Nation because it effectively leverages private-sector monies to 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.

Self-initiation gives prospectors and geologists the opportunity to pursue their ideas about where mineral deposits may be located and identify promising mineral targets. Finding a mineral deposit is a daunting task that takes a lot of skill – as well as luck. According to the NRC/NAS 1999 report,[34] 1,000 mineral targets must be identified and evaluated to discover a deposit that can become a mine.

Another benefit of the claims system is that it generates modest revenue for the Treasury. Mine claimants pay BLM annual claims maintenance fees to keep their claims in good standing. The current claims maintenance fee is $165 per claim[35]. The claims maintenance fee amount is indexed to the Consumer Price Index adjusted accordingly every five years. In FY 2019, BLM collected over $71 million in claims maintenance and other Mining Law holding fees (See Section XI).

The leasing system proposed in H.R. 2579 will completely destroy self-initiation by putting the federal government in charge of deciding where and when geologists can look for minerals and where and for how long miners can operate a mine. These harsh land tenure restrictions will severely compromise the Nation's ability to capitalize on private capital to discover and develop domestic mineral deposits, increasing our dependency on imported minerals.

The oil, gas, and coal leasing systems work because the federal government already has a good idea of where oil, gas, and coal deposits are located prior to offering to lease these lands. Oil, gas and coal occur in well understood sedimentary basins where geophysical surveys can identify targets with a high likelihood of success. Once an oil or gas well is drilled, it can readily be modified into a production well.

In contrast, hardrock mineral deposits occur in areas with much more complex and diverse geology and typically have unique geologic, geochemical, and metallurgical characteristics that make each hardrock

[34] Hardrock Mining on Federal Lands, page 24.

[35] https://www.blm.gov/programs/energy-and-minerals/mining-and-minerals/locatable-minerals/mining-claims/fees

mineral deposit unique. Consequently, discovering a hardrock mineral deposit requires extensive exploration and development drilling because the exact location of hardrock mineral deposits is generally unknown. Once drilling has sufficiently defined the deposit to support a decision to develop it into a mine, huge investments on the order of many hundreds of millions to more than a billion dollars are required to build the mine and processing facilities.

The licensing and leasing acreage and time limits in H.R. 2579 create numerous problems. The 20,480-acre (1,024 mining claims) per company per state limit will require the forfeiture of the private property rights on thousands of mining claims located within the boundaries of currently producing mining properties[36]. 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.

The temporary (two to six year) and spatially constrained (2,560-acre, 128 claim maximum) prospecting license in H.R. 2579 is completely inappropriate and unworkable for hardrock minerals. To put these limits 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. It is not uncommon for exploration activities to take a decade or longer to discover and then define the size and grade of a mineral deposit.

The mine leasing provisions in H.R. 2579 are equally problematic. Companies with a mineral discovery may apply for a 20-year non-competitive mining lease if the surface management agency (e.g., BLM or the USFS) consents to issuing the lease. Giving BLM or the USFS the discretionary authority to decide whether to issue a mining lease puts a company's entire exploration investment at risk 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 for a mining lease is another serious barrier to mineral investment because it is not unusual for mines to operate for longer than the proposed 20-year primary term limit. Without the assurance that a mine can continue to operate after 20 years, companies will be very reluctant to make the enormous investment required to develop a mine.

The H.R. 2579 leasing system is clearly not in the public's interest. Besides increasing the country's reliance on foreign minerals and 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 and deprive states and local communities of the tax revenues and other substantial economic benefits that the mines generate.

[36] For example, Nevada mining companies operate multiple mines and own thousands of mining claims that cover their active mining operations throughout the state.

XI. The Royalty Discussion Should Focus on the Small and Shrinking Royalty Base

For the nearly 30 years during which the Women's Mining Coalition has been involved with the Mining Law issue, the debate about creating a royalty on hardrock mineral production has focused on how to structure the royalty – whether it should be a gross or net royalty and on the royalty rate. During this same timeframe, the amount of mineral production that might become subject to a royalty has steadily decreased, as demonstrated by the decline in Nevada's gold production from about 9 million ounces in 1998 to less than 5 million ounces in 2019.

Given the shrinking mineral production (i.e., the royalty base), arguments about a gross versus a net royalty or the royalty rate put the cart before the horse. The royalty dialogue should be focusing on ways to increase future mineral production to ensure there will be a meaningful level of production that could be assessed a future royalty.

Additionally, assessing a retroactive royalty on existing claims, as proposed in H.R. 2579 runs the risk of exposing the federal government to takings claims. If a mineral production royalty or additional fees are enacted in the future, they should not create confiscatory burdens that will stifle mineral production, and should only apply to post-enactment mining claims to minimize the potential for takings claims against the federal government.

For the entirety of the Women's Mining Coalition's 28-year involvement with the Mining Law debate, the mining industry has continuously and consistently emphasized its willingness to come to the table to negotiate a workable hardrock royalty program that takes into account the unique geologic and economic aspects of the hardrock mineral production. Regrettably these dialogues have not been productive because proponents of overhauling the Mining Law have insisted on modeling a hardrock royalty program after royalty systems used for oil, gas, and coal. As explained in Section X.D. the geology and economics of oil, gas, and coal are completely different than and inapplicable to hardrock mining. If past is prologue, a future Mining Law bill is likely to contain similarly inappropriate royalty provisions, which will continue to thwart constructive dialogue about a reasonable hardrock royalty program.

XII. Cleaning Up Abandoned Mine Lands

Developing a funding mechanism to pay for reclaiming abandoned hardrock mine sites (AMLs) that were created before the enactment of laws and regulations to protect the environment at modern mining operations is one of the drivers of the Mining Law debate. Many of the Mining Law bills that Congress has considered for the past 30 years include an AML reclamation program to be funded by hardrock royalties, fees, and taxes.

Amending the Mining Law is not the only way to create an AML reclamation fund. Recognizing the importance of developing a funding source to reclaim hardrock AMLs sooner rather than later, the Women's Mining Coalition suggests the annual Mining Law holding fees and service fees paid by mining claim holders in excess of the amount the BLM requires to administer its Mining Law Program could be used for AML reclamation. These excess funds currently vanish into the ether of the Treasury's general fund, with no directive to use them for public land management.

BLM's 2019 Public Lands Statistics show BLM collected $71,238,761 in Mining Law holding fees in Fiscal Year 2019. The Consolidated Appropriations Act of 2018 (Public Law 115-141; 132 Stat. 636) authorized the BLM to retain collections up to a maximum limit of $39,696,000 for Mining Law administration

program operations, including the cost to administer the mining claim fee program. Collections in excess of $39,696,000 were deposited to the general fund.[37]

Assuming these statistics are a reasonable estimate of future Mining Law holding fees and Mining Law program administrative costs, approximately $32 million per year could be earmarked in future appropriations measures for AML reclamation without amending the Mining Law. More funding for AML reclamation could be become a reality if Congress enacts measures to improve the permitting process, such as those outlined in Congressman Amodei's National Strategic and Critical Minerals Production Act. Eliminating permitting barriers would attract more investment in domestic mineral exploration and development, which would increase the number of mining claims and associated annual Mining Law holding fees that could be allocated to hardrock AML reclamation.

Abolishing mining claims and substituting a leasing system would obviously eliminate the possibility of using a portion of future claims maintenance fees to fund AML reclamation. A future Mining Law bill that retains the mining claims system but includes the other onerous provisions in H.R. 2579 would reduce investment and the number of claims and leave less funding available for AML cleanups.

For nearly three decades, the mining industry has advocated for bi-partisan legislation to enable AML cleanup consisting of two key elements: 1) creating a hardrock AML fund using proceeds from a workable and prospective net royalty assessed on mineral production from future mining claims; and 2) addressing the Clean Water Act and Superfund liability issues that are a serious barrier to third-party Good Samaritan AML cleanup efforts.

Virtually everyone who evaluated AML policy issues has recognized and documented the legal impediments to voluntary cleanup of AMLs. Policymakers and independent researchers like the NRC/NAS and the Western Governors' Association have urged Congress to eliminate the liability exposure that thwarts parties that have no previous involvement with a mine from undertaking voluntary reclamation and remediation activities. For example, the NRC's/NAS' 1999 report makes the following specific Good Samaritan recommendations:

> "Existing environmental laws and regulations should be modified to allow and promote the cleanup of abandoned mine sites in or adjacent to new mine areas without causing mine operators to incur additional environmental liabilities….
>
> To promote voluntary cleanup programs at abandoned sites, Congress needs to approve changes to the Clean Water Act and the CERCLA legislation to minimize company liabilities."[38]

The Biden Administration's 100-day supply chain report (Section III) directs an evaluation of reprocessing mine wastes as a viable source of critical minerals. Mine wastes at previously mined and now abandoned mines should be included in this evaluation. Congress should exempt AML sites with critical minerals potential from Clean Water Act and CERCLA liability to stimulate reprocessing and reclamation of these sites.

[37] https://www.blm.gov/sites/blm.gov/files/PublicLandStatistics2019.pdf, Table 3-32, Page 161.
[38] NRC/NAS Hard Rock Mining on Federal Lands, pages 104 and 106.

Congress should also contemplate creating a federally-funded program to reprocess mine wastes at AML sites. Obtaining critical minerals from existing mined materials would accelerate acquiring critical minerals from domestic sources because recovering minerals from existing mine wastes could probably be accomplished faster than exploring for, discovering, and mining new mineral deposits. Secondly, it would result in meaningful source reduction of the metals that may be leaching from old mine wastes and impacting surface water and groundwater quality at AML sites. Thus a federal program to reprocess AML sites that contain critical minerals would have many public benefits.

The Women's Mining Coalition would like to acknowledge Trout Unlimited's pioneering AML reclamation work and are pleased that they are testifying at today's hearing. Despite the intractable liability problems that have frustrated most AML cleanup projects, Trout Unlimited has forged a path forward and successfully reclaimed AML sites in partnership with communities, state and federal agencies, mining companies, and other stakeholders. We can all learn a lot from Trout Unlimited's progress and their model for developing public-private partnerships to reclaim AML sites. Congress should look for ways to facilitate and expand Trout Unlimited's AML program.

XIII. Preserving Key Mining Law Fundamentals Would Reduce Reliance on Foreign Minerals

As Congress contemplates amending the Mining Law, the Women's Mining Coalition strongly recommends that the following key elements of the current law be preserved to encourage development of the mineral resources on our public lands:

- Maintain the existing mining claims system which provides the security of land tenure necessary to attract investment in mineral exploration and development.
  Do not jettison the claims system and substitute the impractical leasing system in H.R. 2579.

- Keep lands open to mineral exploration and development.
  Do not put more lands off-limits to mining as proposed in H.R. 2579.

- Preserve the Plan of Operations permitting system for life-of-mine permits that comply with environmental protection standards and provide reclamation bonds.
  Do not adopt the permitting process in H.R. 2579 to give BLM and the USFS discretionary authority to categorically reject mining Plans of Operation.

- Require compliance with the existing framework of federal and state environmental protection regulations that effectively prohibit unnecessary impacts, safeguard all aspects of the environment, and mitigate mining impacts.
  Do not create the onerous and impractical environmental standards in H.R. 2579 that are designed to make mining difficult if not impossible.

- Retain current financial assurance requirements to guarantee reclamation.
  In Nevada alone, state regulators and federal agencies hold over $3.2 billion in reclamation bonds.

- Streamline the mine permitting process to minimize delays and uncertainties that chill minerals investment.
  Enact the streamlining measures in H.R. 3240 and Section 2006 of the Energy Infrastructure Act.

- Appropriate the Mining Law holding fees not needed to administer BLM's Mining Law Program for reclaiming abandoned hardrock mines on public lands.
  Based on FY 2019 statistics, roughly $32 million per year could be used for this purpose.

XIV. Conclusions

Just as we have since 1993, the Women's Mining Coalition stands ready to work with Congress on this issue of national importance and appreciates this opportunity to testify today. Today, it is more important than ever for Congress to eliminate the decades-long threat to enact drastic changes to this law, which has deterred investment in exploring for and developing minerals on public lands.

Maintaining the current Mining Law will encourage U.S. mineral exploration and development that will lead to the discovery of mineral deposits that can increase domestic production of the clean energy minerals needed to achieve our clean energy objectives, reduce the Nation's reliance on foreign minerals, and strengthen domestic mineral supply chains.

Instead of demonizing outmoded, pre-regulation mining, the Women's Mining Coalition asks lawmakers to focus on the future and how more domestic mines could reduce the Nation's dangerous reliance on foreign minerals and produce the clean energy minerals we need to achieve a low-carbon future. Thanks to modern surface management and environmental laws and regulations, these new mines will be the cleanest and safest mines in the world, operating under stringent environmental protection and worker health and safety laws and regulations that we all can be proud of.

Congress holds the key to solving the environmental problems at pre-regulation mine sites throughout the West by enacting liability relief for entities that perform reprocessing and reclamation work at these sites. Mining critics cannot have it both ways – demanding funds from the mining industry to clean up legacy sites and at the same time lobbying for policies to discourage mining.

A thoughtful dialogue about the Mining Law should focus on enacting policies that will reverse the current decline in mineral production, encourage mineral exploration and development to strengthen domestic supply chains for minerals – especially the minerals that are crucial for the clean energy revolution, and enable reprocessing and reclamation of previously mined materials that contain critical mineral resources by exempting these sites from Clean Water Act and CERCLA liability.

Mining impacts a very small fraction of public lands yet its benefits ripple throughout our economy. The urgent need for domestic minerals to build clean energy systems clearly justifies the ongoing use of a minute portion of public lands for mining purposes.

The widespread drought, wildfires, and rampant spread of highly flammable non-native grass species on western public lands may be partially due to climate change and severely threaten the public's use and enjoyment of these lands. Modern mining of clean energy critical and host minerals on a minute fraction of public lands is essential to the Nation's low-carbon future and to help combat the impacts of climate change on hundreds of millions of acres of our public lands. This is the wrong time to make radical changes to the Mining Law that will make mining these minerals more difficult if not impossible.

The Women's Mining Coalition (WMC) is a non-profit organization advocating for today's modern mining industry, which is essential to our Nation. Our grassroots organization has over 200 members nationwide who work in all sectors of the mining industry including hardrock and industrial minerals, coal, energy generation, manufacturing, transportation, and service industries.

WMC
WOMEN'S MINING COALITION




INCLUSION MAKES US STRONGER




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