Legislative Hearing
Reforming the Mining Law of 1872

Subcommittee on Energy and Mineral Resources
Committee on Natural Resources
U.S. House of Representatives
May 12, 2022

Responses to Questions for the Record
Submitted by:
Debra W. Struhsacker
on behalf of
The Women's Mining Coalition

May 26, 2022

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Introduction

On behalf of the Women's Mining Coalition, I would like to thank the House Subcommittee on Energy and Mineral Resources for the opportunity to testify at the May 12, 2022 hearing on Reforming the Mining Law of 1872. I would also like to thank Ranking Member Stauber for asking the seven Questions for the Record discussed below. Mr. Stauber's questions seek some important clarifications on key issues about mining and amending the U.S. Mining Law. My responses to Mr. Stauber's questions are provided in the following sections.

I. Question 1: Why is a Claims System Better for Hardrock Minerals than a Leasing System?

> "Why is a claims system so much better suited to hardrock development than a leasing system in the United States? Some nations do have leasing systems for hardrock minerals – why does leasing function in some places, but would not work the same way in the United States?"

A. The Unworkable and Impractical Aspects of the Minerals Leasing System in H.R. 7580

The leasing system proposed in H.R. 7580 is identical to the failed leasing program currently in place for hardrock minerals on acquired lands. As documented in a May 2020 Government Accountability Office's (GAO's) report[1], in FY 2018, this program had only 20 hardrock mineral leases nationwide that had operating mines, just seven of which generated an inconsequential $8.7 million in federal royalty payments. It is likely that six operating leases for lead, zinc, and copper mines in Missouri paid most of this royalty.

The meager mineral production from the Nation's acquired lands does not reflect a lack of mineral potential. To the contrary, there are some promising mineral deposits known on these lands. The federal leasing program for hardrock minerals on acquired lands clearly fails to realize benefits from the mineral wealth on these lands and is an ineffective way to generate revenue from mineral production. If this leasing system worked well, there would be many more leases producing minerals and paying royalties.

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

The lack of meaningful mineral production and royalty payments from hardrock mineral projects on acquired lands is due to the unfavorable prospecting permit procedures and lease terms that impede exploration and development. The acquired lands hardrock minerals leasing program is a failure because it does not provide the security of tenure required to explore for, discover, develop, and mine hardrock minerals, which are rare, difficult, time-consuming, and costly to find. According to the National Research Council/National Academy of Science 1999 report[2], 1,000 mineral targets must be identified and evaluated to discover a single deposit that can become a mine. It can take ten to twenty years to discover and develop a hardrock mineral deposit. This timeframe is simply incompatible with the arbitrarily truncated time limits and acreage restrictions that would be applicable to the prospecting permits and minerals leases in H.R. 7580.

The H.R. 7580 leasing system replicates the barriers to mineral exploration and development in the acquired lands leasing program. Just like the hardrock minerals leasing program on acquired lands, H.R. 7580 includes the following unworkable time limits and acreage constraints that are unsuited to hardrock mineral exploration and development:

- Prospecting licenses or permits are limited to two years with a maximum four-year discretionary extension, and are restricted to 2,560 acres per permit and a 20,480-acre per person/company per state limit[3]; and

- Hardrock mining leases are limited to a primary term of 20 years, which may not be long enough to develop and mine many deposits. This artificial time constraint is not in the public's best interest. A mining lease must provide security of tenure for as long as it takes to develop and mine a deposit.

The acreage and time limits for prospecting permits and leases are modeled after the temporal and spatial parameters for leasable minerals (e.g., oil, gas, coal, phosphate, potash, and sodium) in the Minerals Leasing Act of 1920, 30 U.S.C. §§181 et seq. The significant differences in the geologic settings for hardrock minerals compared to oil, gas, and coal (as discussed below) make shoehorning a system developed for oil, gas, and coal and force-fitting it onto hardrock minerals inappropriate, and is the main reason the federal hardrock minerals leasing program on acquired lands is a failure.

At a broader level, even if a leasing system that provided adequate security of tenure were developed, Congress would need to consider the practical implications of developing and implementing such a system at a time when the Nation is already challenged to move critical and strategic mineral projects forward under the current system. Changing from a claims system to a leasing system would take years. During this multi-year transition period, investment in mineral exploration, development, and production would decrease in response to the uncertainty, making the U.S. would become even more dependent on foreign minerals. Given the Nation's need for critical minerals for clean energy systems, national defense, manufacturing, infrastructure and other important applications, this would be an especially bad time to change the land tenure system for hardrock minerals.

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

[3] The acreage and time limits for prospecting permits and leases are modeled after the temporal and acreage parameters for leasable minerals (e.g., oil, gas, coal, phosphate, potash, and sodium) in the Minerals Leasing Act of 1920, 30 U.S.C. §§181 *et seq*.

B. Why Self-Initiation and Mining Claims are Optimal for Hardrock Minerals

The geology of hardrock mineral deposits must define the land tenure system. The Mining Law claim location system is exceptionally well-suited for hardrock mineral exploration because it promotes self-initiation and facilitates the iterative exploration process that is necessary to discover minerals. This process involves gradually zeroing in on mineralized areas, which may take decades, using the data obtained from exploration drilling and other mineral investigation techniques, which evolve and improve over time. Collecting these data allows geologists to upgrade or downgrade prospective areas, and to modify the size of a claim block on the basis of this information by either dropping or adding claims. Under this self-initiated exploration and claim location system, there are no arbitrary or rigid time limits or acreage restrictions unlike the H.R. 7580 limits for prospecting permits and minerals leases. At the same time, all the costs and risks are borne by the individual or company conducting the exploration and their investors.

Hardrock minerals are rare and hard to find. They are typically found in areas with complex geology where the host rocks have been folded, faulted, and altered by mineralizing fluids. In contrast, oil and gas deposits are fairly abundant. They occur in well-understood, large sedimentary basins that can be effectively explored using geophysical techniques that require little or no surface disturbance. Laterally extensive coal seams are also easy to identify[4]. The substantial differences in the geologic setting of oil, gas, and coal compared to hardrock minerals is one of the main reasons the federal leasing programs for coal, oil and gas cannot be successfully used for hardrock minerals.

Mr. Rich Haddock's[5] October 2021 testimony before the Senate Energy and Natural Resources Committee, which is attached as Exhibit I, documents the costs, time, and difficulties in discovering a hardrock mineral deposit. As discussed in Mr. Haddock's testimony, Barrick Gold Corporation's Goldrush-Fourmile Project in Nevada is 2,000 feet below the ground surface. Barrick drilled 427 holes in the project area before discovering the deposit.[6] The costs to drill each exploration drill hole at this project has ranged from $500,000 to $1 million. Barrick has been exploring this project for over 20 years, has drilled roughly 1,200 holes to define the size and grade of this deposit, and spent over $459 million in drilling and technical and environmental studies.

The footprint of the 2,000-foot deep orebody projected to the surface covers roughly 45 acres, which is slightly larger than two unpatented mining claims. (An unpatented mining claim can cover a maximum of about 20 acres.) The Plan of Operations boundary covers 19,895 acres of land comprised of 772 acres of private land and 19,123 acres of BLM-administered public lands[7]. The comparative sizes of the ore deposit (45 acres) and the surrounding project area (19,825 acres) illustrates the difficulties in finding an ore deposit, and helps explain why it took so long and so many drill holes to discover the Goldrush-Fourmile

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[4] As explained in Mr. Jim Cress' July 2017 testimony before this Subcommittee, coal is a solid mineral of generally uniform quality and composition that requires little or no processing. In the West, where most federal coal deposits exist, coal beds are vast, world-class deposits of great thickness. For example, in Wyoming's Powder River Basin, coal beds average 80 feet and up to 200 feet in thickness. Little exploration for coal is required, and it is relatively easy to determine the quality of the coal and the thickness of a seam prior to mining with drilling and sampling. (See Exhibit III, page 5 of my May 2022 testimony.)

[5] Mr. Haddock is General Counsel of Barrick Gold Corporation.

[6] https://www.barrick.com/English/news/news-details/2018/fourmile-journey-to-a-high-grade-discovery/default.aspx

[7] https://www.govinfo.gov/content/pkg/FR-2021-08-10/pdf/2021-17040.pdf. To secure the company's land position, Barrick has over 900 unpatented mining claims on the public lands in the project area.

deposit. The exploration history and expenditures at the Goldrush-Fourmile Project are not atypical for a hardrock mineral exploration project, and are emblematic of the daunting nature of hardrock mineral exploration, which is literally like looking for a needle in the haystack.

Under the federal leasing programs for oil, gas, and coal, the federal government decides where companies can explore for and develop these energy resources. That is a workable system for oil, coal, and gas because both the federal government and the industry know with some precision where these resources are located before they are leased. This is not the case for hardrock minerals, whose locations are not known prior to drilling numerous exploration drill holes.

To make a hardrock mineral leasing system work, the federal government would have to invest billions to discover hardrock minerals. Because the government has not made this investment on acquired lands, and the current prospecting permit-leasing system on these lands discourages private-sector investment, the federal leasing program for hardrock minerals on acquired lands is unsuccessful. Replicating this failed system on public domain lands will be similarly unsuccessful.

C. There are No Problems Identified with the Self-Initiated Claim System

It must be emphasized that there are no problems with the self-initiated claims location system that need to be solved. In fact, there is a compelling public interest in preserving this system because taxpayers benefit from the substantial private-sector investments made to explore for minerals under the existing Mining Law. Self-initiation deploys private investment to take the initiative to locate claims based on preliminary concepts about where minerals may be located and 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 expense whatsoever to U.S. taxpayers.

Also, it is important to understand that the U.S. Bureau of Land Management (BLM) knows where all mining claims in the country are located because claim owners must record the locations of their claims and pay annual claim maintenance fees. Although the self-initiated claims system does not dictate where prospectors explore for minerals on lands open to location under the Mining Law, the BLM maintains an accurate database of where active claims are located. Therefore, allegations that the claims location system does not give the federal government adequate information about where claims are located to manage public lands have no merit.

D. Elements of Successful Mineral Leasing Programs

There are examples of workable minerals leasing programs in some western states and in other countries where these systems successfully attract mineral investments, encourage mineral exploration, produce minerals, and generate taxes or royalties payable to the lessor. However, these systems are markedly different from the leasing system proposed in H.R. 7580.

Successful mineral leasing programs are specifically designed to stimulate and facilitate mineral discovery and production. They do not include any of the time restrictions or acreage limitations described above in H.R. 7580. Successful leasing programs are premised on the key principle that the lessor and lessee share a common and mutually beneficial goal to find mineral deposits that can become a mine that pays royalties to the lessor. The H.R. 7580 leasing program has none of these attributes because the lessor (e.g., the federal government) is a hostile landlord whose prospecting permits and mineral leases create numerous barriers to mineral exploration and development.

Given the current extraordinary demand for minerals to build clean energy infrastructure, to power electric vehicles, and to electrify the Nation, this is an exceptionally inappropriate time to make sweeping changes to the land tenure system in the Mining Law. Because there are no demonstrated problems with the claims location system, there would be no public policy benefits from converting the claim location system to a minerals leasing system – even if the terms of a future minerals leasing system provided adequate security of land tenure to promote mineral exploration and development.

Transitioning from a claims system to a leasing program would be an extraordinarily complicated and time consuming process to develop and implement new leasing regulations and procedures, which could be delayed by years of litigation in the federal court system. During this protracted transition period, mineral exploration and discovery would decline due to the uncertainties about the terms in a future minerals leasing program. The net result would be reduced mineral production during the transition period and increased reliance on foreign minerals.

II. Question 2: How Do Net and Gross Royalties Differ/Is a 12.5 Percent Gross Royalty Fair?

> "Federal oil, gas, and coal all operate in the United States with a 12.5 percent royalty. Why shouldn't hardrock mining have the same rate? Can you explain the difference between a "net" and a "gross" royalty, and why that matters in regards to hardrock production?"

A. Royalty Rates

All royalties – whether they are a gross royalty or a net royalty – add operating cost to every ounce of produced minerals. The bigger the royalty, the bigger the cost. The most immediate impact of a royalty is it reduces cash flow. Another important and unfavorable impact of a royalty is the reduction in reserves and resources. If an excessive royalty increases the cost per ounce too much, reserves will shrink, mine life will be shortened, and the capital used to build the mine will be wasted because the mine will have to close before the investment in the mining and processing facilities can be recouped.

The end result of a confiscatory royalty is that mines are forced to close prematurely, leaving reserves in the ground. An excessive royalty hurts both the mine owner and the community as the economic engine that a mine creates for state and local governments grinds to a halt. High-paying mining jobs are lost and revenue streams from tax payments and the purchase of goods and services vanish.

An especially problematic aspect of the royalties in H.R. 7580 is that they would be applied retrospectively to claims in existence on the date of enactment. This will exacerbate the economic hardships that a royalty creates and will likely cause premature closure of those currently operating mines that cannot remain economically viable if they must pay an eight percent gross royalty. As discussed in Section III of my May 12, 2022 written testimony, imposing a retroactive royalty on existing mining claims will expose the federal government and taxpayers to Fifth amendment Constitutional takings claims[8].

The dramatically different geologic and market characteristics of oil gas, coal, and hardrock minerals dictate the need for different approaches to assessing an appropriate royalty rate for these materials. A cookie-cutter approach that uses the 12.5 percent gross royalty applicable to oil, gas, and coal is overly

[8] Also see Exhibit VI, "American Exploration & Mining Association Mining Law Fifth Amendment Takings Analysis," in my May 22, 2022 written testimony.

simplistic and fails to consider the significant differences in how and where these minerals occur, how they are produced, substantial differences in processing costs, and marketplace realities. Using the federal royalty rate for oil, gas, and coal for hardrock minerals is just as unworkable and inappropriate as replicating the federal hardrock leasing system on acquired lands to public domain lands.

Because coal, phosphate, sodium, and potash are solid minerals that are mined from the ground rather than pumped from wells, they are more similar to hardrock minerals than oil and gas and help illustrate why a one-size-fits all 12.5 percent royalty rate is inappropriate. First, there are two different royalty rates for federal coal: 8 percent for coal mined from underground operations; and 12.5 percent for coal mined from surface operations. These different royalty rates reflect the different costs associated with underground mining operations, which are typically more expensive to operate than surface mining operations. Because hardrock minerals are produced from both underground and surface mines, a uniform 12.5 percent royalty rate would be similarly inappropriate.

Second, a uniform 12.5 percent rate is not applicable to other leasable minerals besides oil, gas, and coal. The leasable minerals sodium, potash, and phosphate are not assessed a uniform 12.5 percent royalty rate because these low-margin industrial and fertilizer minerals cannot support a 12.5 percent royalty rate. The statutorily established base rate for phosphate is 5 percent and is 2 percent for potash and sodium. These different royalty rates reflect the different nature and economics of these commodities as well as their dissimilar marketing considerations. Thus, the federal royalty rates for these leasable minerals take into account the differences in these minerals' value and market dynamics, and clearly demonstrate there is precedent for *not* applying a one-size-fits-all 12.5 percent royalty rate to all leasable minerals.

Historically, mines for these leasable minerals have paid lower royalty rates during periods when economic conditions and foreign competition have resulted in the federal government accepting lower royalty rates to keep these mining operations from becoming unprofitable, because it is not in the public's best interest for mines that cannot afford to pay the federal royalty to close. Under these circumstances, a lower government-approved royalty rate is sound public policy because it allows a mine to continue to operate, employ workers, and pay taxes and royalties during economically challenging times[9].

Another compelling reason why applying a 12.5 percent royalty rate to hardrock minerals would be inappropriate is that this would make U.S. mines uncompetitive compared to hardrock mining operations in other countries. Testimony from Ms. Katie Sweeney[10] in October 2021 before the Senate Energy and Natural Resources Committee describes why royalty rates must consider the total government "take," defined as the aggregate of federal, state, and local royalties, taxes, and fees, and compare that take to what mineral producers pay in other countries. A future federal hardrock royalty must not make the total government take so high that U.S. mines cannot compete with mines in other countries.

As explained in Ms. Sweeney's testimony, the existing government take affecting U.S. hardrock mining operations is close to 40 percent for most NMA members, which is close to the top range for other cost-competitive mining countries. The 8 percent gross royalty on new mining operations and the 4 percent on existing operations that were being considered last fall in the Budget Reconciliation Bill would have increased the total government take to over 50 percent and would have made the U.S. an uncompetitive

[9] Jim Cress, *op cit.*

[10] Executive Vice President and General Counsel of the National Mining Association (NMA). Ms. Sweeney's testimony is included as Exhibit V in my May 2022 testimony.

country for mineral investment and mining. The higher (8 to 12.5 percent) royalty rates proposed in H.R. 7580 would increase the total government take for U.S. mines making them even less competitive.

Mr. Haddock's testimony at the same October 2021 hearing (see Exhibit I) compares the total government take in the U.S. compared to Australia or Canada, our two most important mining allies. Currently, the three countries have about the same total government take ranging from 38 to 39 percent. Adding a 2 percent net royalty to hardrock mineral production on federal land would increase the total take on U.S. hardrock mining operations to roughly 41 percent. At this rate, U.S. mines would not be cost competitive with mines in Australia or Canada. Obviously, imposing the 8 to 12.5 percent royalties in H.R. 7580 would make U.S. mines even less competitive with mines in Australia and Canada – especially in light of the far more reasonable two- to three-year permitting timeframes in these countries.

B. Net versus Gross Royalties

Although there is widespread belief that oil, gas, and coal pay a gross federal royalty, this is not true. All three commodities pay a net royalty because certain allowable deductions are applied to the value of these energy minerals before calculating the royalty. As the GAO explains, the "gross" royalty that coal miners pay on coal produced from federal coal leases allows coal mine operators to subtract certain costs to produce a sellable product before the royalty is computed:

> "For coal, certain costs are deducted from the price of coal at the first point of sale, including transportation and processing allowances, before the amount is calculated for royalty purposes[11]."

Similarly, federal oil and gas royalties are a net royalty and not a gross royalty because they are based on the value of the sellable products from an oil and gas well. Although federal royalties for oil, gas, and coal are called gross royalties, this is a misnomer. The federal oil, gas, and coal royalties are in reality comparable to a net royalty because they are based on the value of the sellable products from an oil and gas well or a coal mine[12].

Unlike crude oil and natural gas, for which there are market valuations on a per barrel or per MMBtu basis respectively, there is no market or valuation for "crude" (i.e., unprocessed) hardrock mineral ores as defined in H.R. 7580. For example, the Commodities Market Digest on Page 8 of the May 20, 2022 edition of the *Wall Street Journal* shows market prices of $121.21 per barrel for crude oil and $8.308 per MMBtu for natural gas. This Commodities Market Digest does not show a price for crude gold ore because it has no market value and is never sold as crude ore. It does, however, list the price that day for refined gold as $1,841.20 per troy ounce.

To illustrate the point during the hearing that crude ore must be processed to extract the valuable and sellable hardrock minerals, I showed the piece of crude gold-silver ore from a mine in Nevada that is shown on the following page. The dark-gray lines contain the gold and silver. But before these precious metals can be recovered from this crude ore, the rock must be crushed, ground to a fine powder, and subjected to a number of metallurgical processing steps to liberate the gold and silver and produce a product called doré that gets sold. The doré must then be refined, typically at an off-site facility, to produce gold and silver that can then be used for currency, medical applications, electronics, jewelry, etc.

[11] Oil, Gas, and Coal Royalties, Government Accountability Office Report, June 2017, GAO-17-540
[12] Cress, *op cit.*

Photograph of Crude Gold-Silver Ore

The H.R. 7580 royalty does not allow deductions for any of the costs to transform crude ore into a sellable product. This is not comparable to the federal royalties for oil, gas, and coal which are based on the value of the first sellable products *after* certain allowable deductions for the costs to produce a sellable product.

A workable hardrock royalty program needs to have a similar structure that allows deductions for the processing steps needed to produce the first sellable hardrock mineral product. To be treated equitably with oil, gas, and coal, a future federal hardrock mineral royalty should be assessed at a comparable point in the value-added steps to produce the first sellable product. For hardrock minerals, the mine operator must be able to deduct the costs associated with the value-added mineral processing steps that are necessary to produce a sellable mineral product. The H.R. 7580 royalty is unfair and confiscatory because it is calculated on the gross value of mineral products that includes the value added by the operator to process, refine, and produce a sellable mineral product from the crude ore removed at the initial step in the mining process.

Because commodity price cycles are variable and cyclical, a gross royalty has a very different effect on mining investment compared to a net royalty. Royalties assessed on gross income discourage investment by increasing economic risks. Consequently, projects subject to a gross royalty will require a higher pretax and after-tax rate of return to accommodate the increased risk. In contrast, a net royalty has a smaller effect on the variability of after-tax rates of return and is less of a deterrent to investment. When commodity prices decrease, the rate of return required to justify a mining investment increases more dramatically under a gross royalty than under a net royalty. A gross royalty takes a bigger piece out of the mine's income during periods of low commodity prices.

A gross royalty is especially problematic during industry downturns due to low commodity prices because they cause a greater reduction in cash flow during periods when profits are already low. A gross royalty can functionally reduce the size of the ore deposit that remains economic to mine. During low commodity price cycles, low-grade ores may become uneconomic to mine and process and become low-grade waste materials that are not processed or mined at all, which shortens the life of the mine and reduces the total amount of mineral that will be produced from the mine. Gross royalties may thus contribute to premature

mine closures with the concomitant loss of jobs; reduced local, state, and federal tax revenues and/or royalty payments; and business losses for the mine's vendors and suppliers, which in turn harms nearby communities and local and state governments.

A net royalty, in contrast, does not cause mines to operate at a loss because the royalty owed is automatically reduced during periods of low commodity prices, and increases again when prices are higher. A net royalty thus allows mining operations to continue to operate during periods of low commodity prices and also enables maximum recovery of low-grade ore during high commodity prices. Because mineral demand is cyclical and commodity prices fluctuate, a net royalty provides the best incentive to explore for minerals on federal lands in spite of variable mineral demand and commodity price cycles. A net royalty thus minimizes volatility in the mining industry which helps keep the domestic industry viable and the nation's mineral supply secure, which is in the public's best interest.

Fuel costs have a significant impact on a mine's bottom line. Mines subject to a net royalty will be in a better position to withstand the current extraordinarily high costs for diesel and natural gas compared to mines that must pay a gross royalty. This is another public policy benefit of a net royalty compared to a gross royalty. A net royalty allows mines to continue operating during periods of high costs for the fuel, power, and supplies needed to keep a mine running.

For many years, the U.S. mining industry has been willing to negotiate a reasonable prospective federal hardrock mining net royalty that recognizes the costs to produce hardrock minerals. A net royalty accomplishes an important public policy objective that provides taxpayers with revenue from mining on public lands while at the same time not creating such a substantial burden that the royalty makes mining uneconomic.

Both taxpayers and mine operators "go to the bank together" under a net royalty. Taxpayers receive higher royalty payments during periods of robust commodity prices. Mine operators pay reduced royalties when commodity prices are low, but their mines have a better chance of remaining economically viable and can continue to operate, keeping mine workers employed and providing tax revenues to local and state governments and corporate federal income taxes.

III. Question 3: GAO Reports it Takes Two Years to Permit a Mine – is this Correct?

> "GAO has issued a report saying that the average permitting timeline takes about 2 years, but, in reality, we've observed that it often takes much longer. How long does the average hardrock mine take to become active in the United States, from exploration to production?"

By its own admission, the two-year average mine permitting timeline in GAO's January 2016 report entitled "Hardrock Mining: BLM and Forest Service Have Taken Some Actions to Expedite the Mine Plan Review Process but Could Do More[13]" is based on unreliable and inconsistent data. Therefore, this report does not provide accurate or useful information on how long it takes to obtain permits from the BLM or the U.S. Forest Service for a hardrock mine on western public domain land. In the citations below, GAO acknowledges the serious shortcomings in this investigation:

> "To determine the number of mine plans that were approved from fiscal years 2010 through 2014, we examined data from BLM's Legacy Rehost 2000 (LR2000) system and

[13] https://www.gao.gov/products/gao-16-165

the Forest Service's Locatable Minerals database—automated information systems the agencies use to track key dates and milestones in the mine plan review process. Through interviews with agency officials, our analysis of these data, and comparisons to other publicly available information from federal agencies, *we determined that these data from these databases were not sufficiently reliable to measure the time it took these agencies to complete the mine plan review process, as discussed later in the report.* Consequently, we instead worked with agency officials to collect data from paper and electronic records maintained by BLM field offices and Forest Service ranger districts to develop a list of mine plans approved from fiscal years 2010 through 2014. To ensure that we reviewed data on comparable projects, we requested data on *mine plans that were 5 acres in size or larger,* and were plans for new mines or mine expansions[14]." (Emphasis added.)

"Because we selected a nonprobability sample of BLM and Forest Service locations, *our findings are not generalizable* to all BLM and Forest Service locations conducting reviews of mine plans[15]." (Emphasis added.)

"*BLM and the Forest Service's tracking of the mine plan review process is hindered by limitations with their data systems; as a result, BLM does not have adequate information, and the Forest Service does not have complete information, necessary to track the length of time to complete the mine plan review process[16].*"(Emphasis added.)

In addition to the shortcomings of BLM's and the Forest Service's mine permitting tracking systems and databases described in this GAO report, it is obvious that GAO has misinterpreted the data the agencies provided on the number of Plans of Operation that were reviewed and authorized during the 2010 to 2014 timeframe. GAO incorrectly assumed that all Plans of Operations were for mining operations and failed to understand that most Plans of Operation are for mineral exploration projects – not for mining projects. The following statement illustrates this point:

> **"Mine size.** The sizes of the mines proposed in these 68 plans varied greatly, ranging from 5 to 8,470 acres[17]. The average proposed mine was approximately 529 acres, and the 68 mine plans totaled nearly 36,000 acres[18]."

GAO's failure to distinguish between Exploration Plans of Operation (EPOs) versus Mine Plans of Operation (MPOs) produced a meaningless analysis that inappropriately lumps EPOs and MPOs together. Consequently, GAO's findings that it takes an average of two years to permit a mine are wildly inaccurate and frequently misrepresented. Figure 4 and GAO's summary statement: "Timeframes for approving Plans ranged from about one month to over 11 years and averaged two years[19]" is based on a jumble of apples and oranges data. These widely divergent timeframes reflect it takes less time for the agencies to review and authorize EPOs versus much more time to review and authorize MPOs. Therefore, the analysis in this

[14] GAO, *op cit.,* pages 3 - 4.
[15] GAO, *op cit.*, page 5.
[16] GAO, *op cit*., page 13.
[17] Five acres is the surface disturbance threshold that triggers the requirement to submit a Plan of Operations for mineral exploration activities on BLM-administered lands. The Forest Service requires a Plan of Operations for all surface-disturbing mineral activities, even if only a few acres will be disturbed.
[18] GAO, *op cit.*, page 14.
[19] GAO, *op cit.,* page 16.

report has little or no relevance or value and should not be used in future policy discussions about the mine permitting process or the length of time required to permit a mine.

As discussed at length in my July 2021 Questions for the Record[20] for the July 27, 2021 hearing "The Toxic Legacy of the 1872 Mining Law" before the House Subcommittee on Energy and Mineral Resources, GAO made the same error and failed to distinguish between EPOs and MPOs in its May 2020 Report "Mining on Federal Lands, GAO-20-461R"[21], which led GAO to inaccurately state there are 728 active mining operations on public lands. This grossly overestimates the number of active mines because most of the 728 Plans of Operation are EPOs – not MPOs.

Finally, the 2016 GAO report acknowledges that in addition to permits from the BLM and U.S. Forest Service, most project proponents must also secure many additional permits before a mine can be built and operated:

> "Based on a review of NEPA documents, state permitting guidelines, and studies of hardrock mining requirements, we identified six categories of federal permits and authorizations that mine operators may need to obtain from entities other than BLM and the Forest Service and seven categories of state and local permits and authorizations across 12 western states that may be required depending on the nature of the mining operations…"[22]

Congress may want to ask GAO to update and correct its analysis of the amount of time it takes to permit MPOs and EPOs. The following are some recommended parameters that would greatly improve the reliability of a future GAO study:

1) The BLM and the U.S. Forest Service should improve the agencies' recordkeeping and databases to clearly distinguish between EPOs and MPOs; and

2) The GAO should perform separate analyses of the length of time required for the agencies to authorize EPOs versus MPOs.

It would also be useful for GAO to compare the length of time it takes BLM to authorize these mineral activities versus the time it takes the U.S. Forest Service to approve EPOs and MPOs. Based on my experience, this comparison is likely to reveal that it takes longer for the Forest Service to review and authorize EPOs and MPOs than the BLM. But the permitting timelines for both agencies take too long for both EPOs and MPOs. The permitting process for some EPOs can take longer than two years.

Rather than relying on this inaccurate GAO analysis, Congress may want to consider the data that the Council on Environmental Quality (CEQ) compiled during its recent rulemaking to consider changes to the CEQ regulations implementing the National Environmental Policy Act (NEPA). CEQ's July 2020, report[23] presents information on the timelines it took federal agencies to prepare Environmental Impact Statements (EISs) from 2010 through 2018. CEQ found that it took an average of more than 4.5 years for

[20] Included herein as Exhibit II. Also see Section III of my testimony for the May 12, 2022 hearing, "Reforming the Mining Law of 1872."
[21] https://www.gao.gov/products/gao-20-461r
[22] GAO *op cit.,* page 17.
[23] https://ceq.doe.gov/nepa-practice/eis-timelines.html

federal agencies to complete the NEPA process starting with issuance of a Notice of Intent (NOI), completing an EIS document, and issuing a Record of Decision (ROD).

IV. Question 4: Would a Mineral Resources Assessment Support a Minerals Leasing Program?

> "Does the lack of a comprehensive resource assessment in the United States for metals and minerals provide a disincentive to mine project proponents under a leasing system, as proposed in H.R. 7580? Please describe why or why not."

A comprehensive U.S. mineral resource assessment would be extremely useful information that could stimulate more private-sector investment in mineral exploration on federal lands throughout the country, including on public domain and acquired lands *if it is coupled with favorable mining policies*. However, a mineral resource assessment would not make the hardrock mineral leasing program in H.R. 7580 (or the same program that currently governs acquired lands) any more practical or workable because the time limits and acreage constraints discussed in Section I would remain as serious barriers to mineral exploration and development.

The length of time allowed under a prospecting permit (a two-year initial term with a maximum of six years) and the acreage constraints, (a maximum of 2,560 acres per lease and only eight leases, 20,480 acres, granted per company), are not enough time or land to allow the self-initiated and iterative exploration work that is required to find the "needle-in-the-haystack" hardrock mineral deposit. The exploration and discovery timeline described in Section I for Barrick Gold Corporation's Goldrush-Fourmile Project is typical of the length of time (two decades) to discover a hidden mineral deposit that is not exposed at the surface.

Because most mineral deposits that are exposed at the surface have already been explored, it is likely that the majority of future mineral discoveries will be hidden deposits that are covered by a thick sequence of unmineralized rocks. These deposits are difficult, expensive, and time-consuming to discover and delineate. The current claims system is ideal for facilitating the time-consuming and self-initiated iterative exploration process that can lead to a discovery of the hidden mineral deposit. The H.R. 7580 prospecting permit/leasing system is simply impractical. It does not give explorers enough time or land to enable discovery of mineral deposits. The failure of this same system on acquired lands proves that it is an ineffective system for discovering and developing mineral deposits.

The U.S. Geological Survey (USGS) is currently undertaking the Earth Mapping Resources Initiative (Earth MRI), which has the stated goal to:

> "…improve our knowledge of the geologic framework in the United States and to identify areas that may have the potential to contain undiscovered critical mineral resources[24]."

The geophysical and lidar surveys that will be performed as part of the Earth MRI may be useful in identifying broad areas with hidden mineral potential. However, if and when the Earth MRI delineates areas with critical mineral potential, it will still be necessary for companies to do the expensive, time-consuming, and iterative exploration work to find the "needle-in-the-haystack" mineral deposit hidden within larger areas with mineral potential. The H.R. 7580 leasing program is completely incompatible with

[24] https://www.usgs.gov/special-topics/earth-mri

the geologic realities of discovering and developing hardrock minerals. Consequently, the Earth MRI or other mineral resources assessment surveys are unlikely to significantly increase the discovery and development of critical minerals if the self-initiated mining claims system is eliminated and replaced by the H.R. 7580 leasing system.

Conversely, the Earth MRI data may be very useful in stimulating mineral exploration for buried mineral deposits if the current self-initiated claims system under the Mining Law remains in place. This is especially true in the Great Basin portion of western public domain lands where there are broad areas covered by unmineralized rocks. (The Great Basin extends across most of Nevada and about half of Utah, with small portions in Idaho, Oregon, Wyoming and California.) The Nevada Division of Minerals estimates that alluvium covers roughly 48 percent of Nevada, obscuring the rocks that may host attractive mineral targets. About 79 percent of these covered lands are currently open to location under the Mining Law[25].

V. Question 5: Why is Siting a Solar Facility Different than Finding a Mine?

> "During the hearing, Rep Porter displayed a whiteboard denoting column "A" and column "B," regarding siting decisions and environmental costs of solar farms and mining projects. Could you explain why this isn't an "either/or" proposal in terms of materials needed for solar energy technologies?"

The hypothetical scenario that Congresswoman Porter described on her whiteboard involving conflicting land uses between a hardrock mineral mine and a solar facility reflects a lack of understanding of where and how mines are located versus the site selection process for a solar facility. As described in Section I, hardrock mineral deposits are rare and difficult to find. Statistically, only 1 in 1,000 mineral prospects will have the geological and mineralization characteristics necessary to become an economically viable mine[26].

Mines can only be developed where a mineral deposit has been discovered. Once a mineral deposit is discovered, it cannot be moved. The Goldrush-Fourmile gold deposit discussed in Section I is a good example of a 20-yearlong, $459 million exploration effort that was eventually successful in delineating the "needle-in-a-haystack" deposit which is 2,000 feet below the ground surface and covers just 45 acres within a 19,895-acre project area.

In contrast, there may be many feasible locations where the sun shines on a regular basis for a solar facility, which gives solar project proponents the ability to select one or more optimal sites factoring in the hours of sunshine, land ownership, zoning, topography, proximity to existing infrastructure, and power users, and other site parameters. The solar developer has the ability to find the best sunny site based on these considerations. Mineral developers do not have the same flexibility because minerals do not occur everywhere the sun shines. They can only hope to discover minerals where geologic conditions are favorable for the formation of a mineral deposit, which may take decades and the investment of hundreds of millions of dollars to discover, as was the case for the Goldrush-Fourmile deposit.

Although a mineral deposit cannot be moved or mined elsewhere, development of a mine and a solar facility are not mutually exclusive land uses. With proper planning and permitting, it may be feasible to co-develop a mine and a solar field to use solar energy to help power the mine. Alternatively, some mine sites are being considered for redevelopment into solar fields once mining has been completed.

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[25] Personal communication, Lucia Patterson, Nevada Division of Minerals, GIS/Field Specialist, Geologist.
[26] Hardrock Mining on Federal Lands, *op cit.*

Co-development and post-mining redevelopment of mine sites for renewable energy facilities such as solar installations create sustainable use of the transmission lines and other infrastructure developed to support the mine. Because many mine sites use line power and have constructed nearby transmission facilities, capitalizing on this existing electricity transmission infrastructure removes a significant barrier to solar (and wind) power, which otherwise would have to be able to support the costs to build a transmission line to the solar or wind farm. The costs associated with bringing transmission lines to a proposed solar or wind project can make some projects uneconomic. Taking advantage of preexisting transmission infrastructure may make many more solar and wind projects economically feasible.

The Nature Conservancy's (TNC's) "Mining the Sun Initiative" is actively looking for opportunities at operating and old mines to capitalize upon the synergies between mining and renewable energy and is recruiting mining partners with operating and closed mines as potential sites for solar fields:

> "…Nevada mine sites have existing road and power line infrastructure, making them attractive for solar development. In fact,…there are more than 1 million acres of potential minefields and brownfield sites in Nevada. If developed with solar power, TNC estimates their solar energy generation potential in Nevada to be 20,219 megawatts—enough to power 3.8 million homes[27]."

VI. Question 6: Will the Permitting Requirements in H.R. 7580 Create Bureaucratic Delays?

> "H.R. 7580 adds two more permitting requirements in Title III to a process that already has significant overlap and can take around two decades. Will the new proposed permits create more bureaucratic delays?"

H.R. 7580 Section 303 creates a new Exploration Permit; Section 304 creates a new Operations Permit. It is unclear whether the Title III permitting processes in H.R. 7580 would be in addition to the comprehensive and effective BLM, USFS, and state regulatory requirements and permitting processes that currently govern mineral exploration and development or would replace these processes. Either way, the Title III permitting processes will make mineral projects much more difficult – if not impossible – to permit.

The problems associated with these Title III permitting requirements extend far beyond creating more bureaucratic delays because these sections include a number of impractical and unworkable requirements and standards that are designed to make mine permitting impossible. The Section 111 Sacred Places criteria and the Section 112 suitability criteria strongly influence both the Section 303 and 304 permitting processes and will put many more federal land areas off limits to mining.

As discussed in Section X of my May 12, 2022 written testimony, the suitability determination provision in Title I, Section 112 gives the Secretary a mine veto without any attempt to balance the need for minerals and other uses of public lands as is currently mandated under Section 102(a)(12) of the Federal Land Policy and Management Act of 1976, 43 U.S.C. §§ 1701 *et seq* (FLPMA). The laundry list of "Special Characteristics" that would make lands unsuitable for mining under H.R. 7580 will put broad swaths of land off-limits to mineral development. Widespread site characteristics including the presence of water resources and aquifers, lands eligible for the National Register of Historic Places, lands with critical habitat,

[27] https://www.nature.org/en-us/what-we-do/our-priorities/tackle-climate-change/climate-change-stories/nevada-west-virginia-solar-energy-former-mines/

and the "adjacent lands" buffer zone in Title I, Section 112, will be used to withdraw large blocks of land from mining. Even more problematic is the vague, catch-all provision in Section 112 (b)(2)(F) that provides discretionary authority to the Secretary of the Interior and to the Secretary of Agriculture to designate "the presence of other resource values as the Secretary concerned may by rule specify, determined based upon field testing, evaluation, or credible information that verifies such values."

Title 1, Section 112 should be considered in the context of existing laws that have withdrawn over 400 million acres of land from mineral entry[28]. As a starting point, mineral entry on federally-administered lands is only allowed in nineteen (19) states. Vast areas of federal lands have been withdrawn from mineral entry for National Parks; National Monuments; Indian reservations; reclamation projects under the Bureau of Reclamation; Military reservations; scientific testing areas; wildlife protection areas managed by the U.S. Fish and Wildlife Service; lands designated by Congress as part of the National Wilderness Preservation System; lands designated as a wild portion of a Wild and Scenic River; and lands withdrawn by Congress for study as a Wild and Scenic River.

Another very problematic aspect of the Section 303 and 304 permitting processes is that mineral projects will have to comply with the new and unrealistic undue degradation standard. As discussed in Section X of my written testimony for the May 12, 2022 hearing, H.R. 7580 eliminates the undue and unnecessary degradation (UUD) environmental protection mandate in FLPMA Section 302(b) and replaces it with "undue degradation" (UD) for hardrock mineral projects, which would prohibit degradation that is necessary in order to mine. Because mining cannot occur without causing some unavoidable changes to the land due to excavating pits, storing mine wastes, and building other facilities, eliminating the concept of necessary impacts from UUD and changing it to UD makes mining impossible if future BLM regulators have the discretionary authority to deem unavoidable and therefore necessary impacts undue. This impossible-to-achieve standard, which could be applied at any point during the permitting process, is clearly designed to eliminate future mining on federal lands. Section 301 of H.R. 7580 makes similar changes to the current environmental performance standard for mineral activities on National Forest System lands.

The Title III environmental standards and permitting processes creates a complex regulatory review that adds another layer of bureaucracy designed to make mineral projects more difficult to permit and develop. Taken together, Sections 111, 112, 303, and 304 will advance the overarching purpose of H.R. 7580 to discourage and prevent mineral activities on federal lands.

VII. Question 7: Has the Mining Law been Amended Since 1872?

"Will this be the first time the Mining Law has been amended in 150 years?"

Congress has amended the Mining Law many times since it was enacted in 1872. However, in stark contrast to the wholesale gutting of Mining Law rights proposed in H.R. 7580, all previously enacted amendments to the Mining Law carefully preserved claim owners' Mining Law property rights. Table 1 summarizes some of the laws that have amended the Mining Law and preserved Mining Law property rights.

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

Table 1 Amendments to the Mining Law that Change Rights Under the Mining Law While Still Preserving Mining Law Rights	
Laws Amending the Mining Law	**Preservation of Mining Law Property Rights**
1910: 43 U.S.C. Section 142 - The 1910 Pickett Act, which FLPMA repealed in 1976	bona fide occupants or claimants in "diligent prosecution of work leading to" discovery not to be affected by withdrawal order "so long as such occupant or claimant shall continue diligent prosecution of said work"
1920: 30 U.S.C. Sections 181 *et seq* – The Minerals Leasing Act, (MLA) Section 37 Savings Clause	"…[D]eposits of coal, phosphate, sodium, oil, oil shale, and gas, herein referred to, in lands valuable for such minerals…shall be subject to disposition only in the form and manner provided in this Act, *except as to valid claims existent at date of the passage of this Act and thereafter maintained in compliance with the laws under which initiated, which claims may be perfected under such laws, including discovery*." (emphasis added)
1955: 30 U.S.C. Section 612 - The 1955 Surface Use Act	§612. Unpatented mining claims (a) Prospecting, mining or processing operations "Any mining claim hereafter located under the mining laws of the United States shall not be used, prior to issuance of patent therefor, for any purposes other than prospecting, mining or processing operations and uses reasonably incident thereto." (b) Reservations in the United States to use of the surface and surface resources Rights under any mining claim hereafter located under the mining laws of the United States shall be subject, prior to issuance of patent therefor, to the right of the United States to manage and dispose of the vegetative surface resources thereof and to manage other surface resources thereof (except mineral deposits subject to location under the mining laws of the United States). Any such mining claim shall also be subject, prior to issuance of patent therefor, to the right of the United States, its permittees, and licensees, to use so much of the surface thereof as may be necessary for such purposes or for access to adjacent land: *Provided, however*, That any use of the surface of any such mining claim by the United States, its permittees or licensees, shall be such as not to endanger or materially interfere with prospecting, mining or processing operations or uses reasonably incident thereto..."
1955: 30 U.S.C. Section 615 - The 1955 Surface Use Act	"Nothing in this subchapter and sections 601 and 603 of this title shall be construed in any manner to limit or restrict or to authorize the limitation or restriction of any existing rights of any claimant under any valid mining claim heretofore located…
1955: 30 U.S.C. Section 624 - The 1955 Mining Claims Rights Restoration Act applicable to power development reservations	"[N]othing in this chapter shall be construed to limit or restrict the rights of the owner or owners of any mining claim who are diligently working to make a discovery of valuable minerals at

Table 1 Amendments to the Mining Law that Change Rights Under the Mining Law While Still Preserving Mining Law Rights	
Laws Amending the Mining Law	**Preservation of Mining Law Property Rights**
	the time any future withdrawal or reservation for power development is made."
1976: Federal Land Policy and Management Act, 43 U.S.C. Section 1701 *et seq.* (FLPMA)	"…no provision of…Section [302(b)] or any other section of this Act shall in any way…impair the rights of any locators or claims under that Act [the Mining Law of 1872] or, including, but not limited to, rights of ingress and egress."
1992: Claim Maintenance Fee Department of the Interior and Related Agencies Appropriations Act of 1993[29] and subsequent Department of the Interior appropriations bills	Unpatented mining claim owners must pay an annual rental fee that applies to all claims regardless of their lifecycle stage or discovery status.

As shown in Table 1, there is a well-established legislative history of Congress enacting changes to the Mining Law. As discussed below, these amendments range from removing energy minerals from the Mining law and establishing a new law governing these commodities, restricting non-mining uses of unpatented claims and mill sites, establishing a mandatory claim recordation requirement, and charging an annual claim maintenance fee to keep claims in good standing.

Despite these significant changes, Congress has never amended the Mining Law in ways that would categorically extinguish claim owners' rights to use and occupy lands open to the Mining Law for mineral purposes. The provisions in H.R. 7580 to eliminate mining claims and charge a royalty on existing claims would be the first amendment that would fail to respect claim owners' Mining law property rights. H.R. 7580 is thus likely to subject the federal government and taxpayers to Fifth Amendment takings claims.

Some of the more significant amendments to the Mining Law and the ways in which the changes preserved Mining Law property rights are discussed below:

A. The Minerals Leasing Act of 1920

One of the most significant changes to the Mining Law occurred in 1920 when Congress enacted the Minerals Leasing Act (MLA), which removed oil, gas, oil shale, and other non-metalliferous minerals from the Mining Law and established a leasing and royalty system for future development of these resources. The MLA's Section 37 savings clause eliminated Fifth Amendment takings concerns by exempting preexisting unpatented mining claims from the new leasing and royalty system. The MLA is the only major amendment to the Mining Law that substantively changed the claims interest structure for mineral deposits on public lands into a leasehold process. However, the MLA did not include a blanket mandatory conversion of then existing claims into leases – in marked contrast to the mandatory leasing provision in H.R.7580. Rather, in 1920, Congress surgically amended the Mining Law to preserve the Mining Law property rights associated with all properly maintained claims for oil, gas, oil shale, etc. in existence on the date of enactment, thereby avoiding protracted litigation and costly Constitutional "takings" claims.

[29] Pub. L. 102–381, 106 Stat. 1374 (1992)

If Congress determines that a future leasing system is appropriate for hardrock minerals, it should replicate what Congress did in the 1920 MLA and enact a savings clause modeled after the MLA Section 37 savings clause that exempted all existing claims from the new leasing system and royalty, and grandfathered their status under the Mining Law in order to preserve the Mining Law property rights associated with these mining claims. However, as discussed in Section I, the significant geological differences between oil, gas, coal, and other bedded sedimentary deposits compared to hardrock minerals makes the H.R. 7580 leasing system impractical for hardrock minerals. Preserving the self-initiated claims system is a far superior way to optimize the likelihood of discovering and developing hardrock minerals.

B. The Federal Land Policy and Management Act of 1976

Section 314 of FLPMA established new claim recordation requirements that substantially changed the Mining Law by requiring claim owners with claims located prior to FLPMA's enactment date to record their mining claims and sites within three years to keep their claims and sites in good standing. FLPMA's claim recordation requirements and deadlines conditioned the rights under the Mining Law by creating a new obligation for claim and mill site owners and a process by which the federal government could void stale mining claims and determine where active claims and mill sites were located.

However, the FLPMA claim recordation requirement did not terminate or in any way diminish the rights of claim owners who complied with the new Section 314 recordation requirements and deadlines. Unlike the H.R. 7580 mandate to convert mining claims to minerals leases, FLPMA's Section 314 recordation requirements fully protected claim owners' property rights to their mining claims and mill and tunnel sites through compliance with the Section 314 recordation requirements. By establishing a three-year transition period in FLPMA Section 314, and applying the recordation requirements to all claims and sites regardless of whether they covered lands with a valuable mineral deposit or lands being used for mill site purposes, Congress avoided costly Constitutional takings claims.

Additionally, the FLPMA Section 314 claim recordation requirement applied to all mining claims regardless of their discovery status. All claims had to be recorded whether they were being actively mined or whether they were located at early exploration-stage projects where minerals had not been discovered. This stands in marked contrast to the provision in Section 304 of H.R. 7580 which seeks to limit mining permits to claims with a discovery of a valuable mineral deposit and requires a Right of Way for ancillary facilities.

C. The Claim Maintenance Fee

The claim maintenance fee that Congress enacted in 1992 is the most recent Congressional action affecting the Mining Law. This new fee recognizes claim owner's rights associated with mining claims and sites so long as the annual fee is timely paid. Payment of this fee secures claim owners' rights to use and occupy their mining claims and sites during the claims fee year, subject to compliance with the applicable surface management regulations (e.g., the 43 C.F.R. Subpart 3809 regulations for BLM-administered lands and the 36 C.F.R. Part 228 Subpart A regulations for National Forest System lands), and all other applicable state and federal environmental protection regulations. When initially enacted in 1992, the annual claim maintenance fee was $100 per claim. The claim maintenance fee amount is indexed to the Consumer Price Index and adjusted accordingly every five years. The current claim maintenance fee is $165 per

claim[30]. In FY 2020, BLM collected over $69.4 million in claim maintenance and other Mining Law holding fees[31].

The claim maintenance fee requirement applies to all claims regardless of their discovery status. The fee must be paid for claims with a minerals discovery that is being actively mined as well as to claims where exploration has not yet successfully discovered a mineral deposit, and even to claims where exploration work has not yet started.

D. Environmental Protection Statutes

BLM's 43 CFR Part 3809 surface management regulations for locatable minerals and the Forest Services' 36 CFR Subpart 228A surface management regulations require compliance with all applicable federal environmental laws and regulations. Therefore, numerous federal environmental laws functionally amend the Mining Law. Project proponents must demonstrate their proposed mineral exploration and mining projects comply with the Clean Air Act, the Clean Water Act, the Endangered Species Act, and the many other federal environmental laws listed in Table 2. Thus, as a practical matter, the environmental performance standards and permit limits enforced under these environmental protection laws condition claim owners' rights under the Mining Law to use and occupy public lands for mineral purposes. State laws also govern mining operations and, to the extent that a given state requirement is more stringent than a federal counter-part requirement, the mining operation must meet the more restrictive state law.

Table 2
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 Magnuson -Stevens Fishery Conservation and Management Act
1980s	Safe Drinking Water Act Amendments of 1986 Comprehensive Environmental Response, Compensation, and Liability Act Superfund Amendments and Reauthorization Act

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

[31] https://www.blm.gov/sites/blm.gov/files/docs/2021-08/PublicLandStatistics2020.pdf, Table 3-32, Page 158.

Table 2 Chronology of Enactment of Federal Environmental Protection Laws	
Decade Enacted	**Partial List of Federal Environmental Laws**
	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

Additionally, if Congress or states enact new environmental protection statutes or regulations in the future, the mandates in BLM's 43 CFR Part 3809 regulations and in the Forest Service's 36 CFR Subpart 228A regulations will be automatically updated to include any new requirements. Thus, the agencies' 3809 and 228A surface management regulations governing hardrock minerals are "living regulations" that are designed to evolve with time to incorporate any new environmental protection compliance requirements.

VIII. Conclusions

Despite its title, "The Clean Energy Minerals Reform Act," H.R. 7580 will not promote the development of domestic clean energy minerals to support the Biden Administration's goals to reduce carbon emissions, phase out fossil fuels, and shift to carbon-free energy systems. Although there would never be a right time to enact the draconian measures in H.R. 7580, this is an especially bad time to make radical changes to the Mining Law that will make mining clean energy minerals more difficult — if not impossible – and is diametrically at odds with the Administration's clean energy policies and objectives.

At best, H.R. 7580 reflects a profound lack of understanding of the laws and regulations governing modern mines which require mines to be built and operated with numerous environmental safeguards and substantial financial assurance, making U.S. mines the cleanest and safest in the world. To address this lack of understanding, the Women's Mining Coalition would like to offer to arrange mine tours and/or webinars for members of the Subcommittee and staff to showcase the environmental protection measures and technology at modern mining operations, the significant career opportunities for women at all levels in the mining industry, and the important role that mining plays in the economic and social wellbeing of the communities where mines are located. Because "seeing is believing" the suggested mine tours could play an important role in enhancing the tenor of future legislative dialogues about the Mining Law of 1872.

In 1993, the Women's Mining Coalition started working with the 103rd Congress on proposed legislation to amend the Mining Law. Many aspects of the Mining Law debate have not changed much in the past thirty years. Just as we have since then, the Women's Mining Coalition stands ready to work with the 117th Congress on this issue of national importance. We truly appreciate the opportunity to testify at the May 12, 2022 hearing and to respond to the Questions for the Record discussed above.

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.

Exhibit I
October 2021 Testimony of Mr. Rich Haddock,
Senate Energy and Natural Resources Committee

Hearing to Examine and Consider Updates

To The Mining Law of 1872

Committee on Energy and Natural Resources

U.S. Senate

October 5, 2021

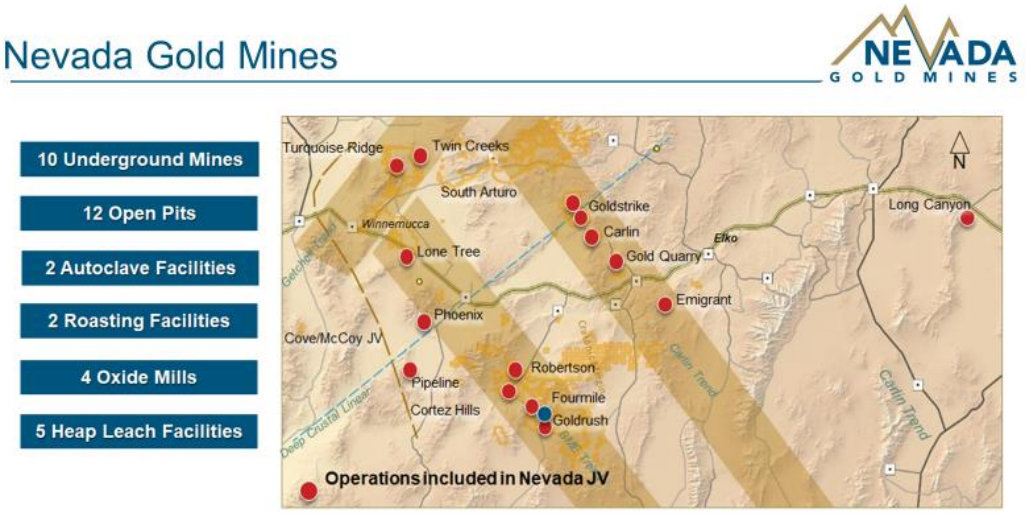
Statement of Rich Haddock

General Counsel, Barrick Gold Corporation

Chairman Manchin, Senator Barrasso, Senator Cortez-Masto and members of the Committee. Thank you for inviting me to appear before you today to talk about the U.S. Mining Law.

My name is Rich Haddock. I am General Counsel of Barrick Gold Corporation. Barrick is the second largest gold producing company in the world and the biggest gold producer in the United States. Barrick has gold and copper mining operations and projects in 13 countries in North and South America, Africa, Papua New Guinea and Saudi Arabia.

Most of our US gold production comes from Nevada. We operate Nevada Gold Mines, a joint venture of Barrick and the Newmont Corporation. Nevada Gold Mines is the largest gold-mining complex in the world with more than 7,000 employees and 4,000 contractors, who employ thousands more people, in Nevada and around the country. These jobs pay average wages of $94,000 – higher than any other industry in Nevada.



About 85% of Nevada is owned and managed by the Federal Government, the most of any state. Most of our operations take place on unpatented mining claims under the approval of the federal Bureau of Land Management. Dominant federal ownership makes the mining law more important to Nevada than any other state.

I have worked for Barrick for 24 years and have been an in-house lawyer in the gold mining industry for 29 of the 37 years that I have been practicing law. I also spent three years as the global Vice President of Environment for Barrick. I am familiar with almost every aspect of our Nevada and other US operations, and with the long-running debate about the 1872 Mining Law.

The Mining Law

I have participated directly and through trade organizations—the Nevada Mining Association and the National Mining Association—in the debate over proposed changes to the 1872 Mining Law. As a long-time mining lawyer, I can tell you that the Mining Law has survived so long for a simple reason: because it works. The Mining Law is a land tenure law governing the acquisition of mineral rights on federal lands, and the relationships between claimholders and the United States as paramount title holder. It also governs the relationships between competing claimants. The Mining Law still does these jobs very well.

But while it works, we recognize that the Mining Law is not perfect, and that the law could be updated. One of the Mining Law's original purposes – settlement of the West – is certainly no longer a reason for the Law's existence. However, its other main purpose – supplying valuable minerals for the nation – is more relevant than ever. It is important that any reform of the Mining Law be consistent with the United States' need for stable domestic supplies of critical minerals, including gold.

Barrick has consistently supported changes in the Mining Law – including the imposition of a reasonable net royalty – since the Senate's last serious effort to reform the law in the 1990s. In fact, Barrick and other miners supported a net royalty that was included in a 1995 budget reconciliation package passed by Congress, but vetoed on other grounds by President Clinton. If not for that veto, we would not be having this conversation today.

We welcome the conversation about royalties and other updates to the Mining Law. However, when talking about reform, there are two aspects of the current Mining Law that are absolutely essential to preserve. One is what we call "**self-initiation"-** the right of the explorer to identify the land they want to explore, based on ever-evolving understanding of geology and new technologies. The second is **"security of tenure"**- the ability to hold the area with confidence and explore long enough to determine whether it contains a viable mineral deposit or not, and if justified, to develop it into a mine. These features are essential because they determine whether the hardrock mining industry will be able to thrive in the United States in the future.

Our position today is simple, and consistent with the mining law principles of the National Mining Association, which are attached. We support legislation imposing a reasonable prospective net royalty and an additional claim fee earmarked for reclamation and remediation of abandoned mine lands.

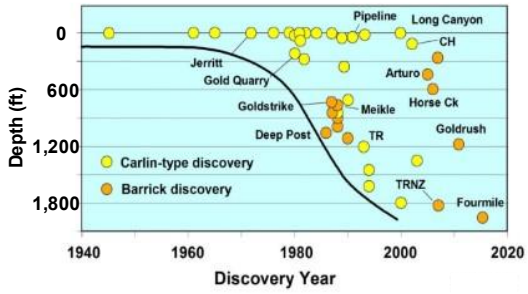
Self-Initiation

Hard rock metal mines are not just discovered, as was more commonly the case in the 19th Century. They are literally *made* by extensive investment of drilling and processing technologies and the application of human knowledge to a complex multi-faceted problem of geology, chemistry, and engineering. The very foundation of the exploration business is being able to choose where you are going to look for commercial deposits of minerals: that's the concept of self-initiation. A miner's competitive advantage comes from targeting the best available ground

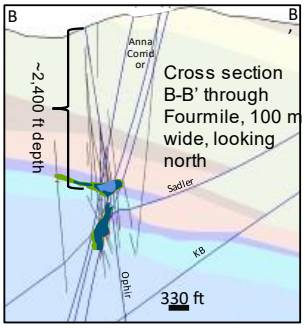
based on superior geologic knowledge and application of the best (and ever evolving) exploration and processing technologies.

Looking for the Needle in the Haystack

Deposits are getting deeper and harder to find

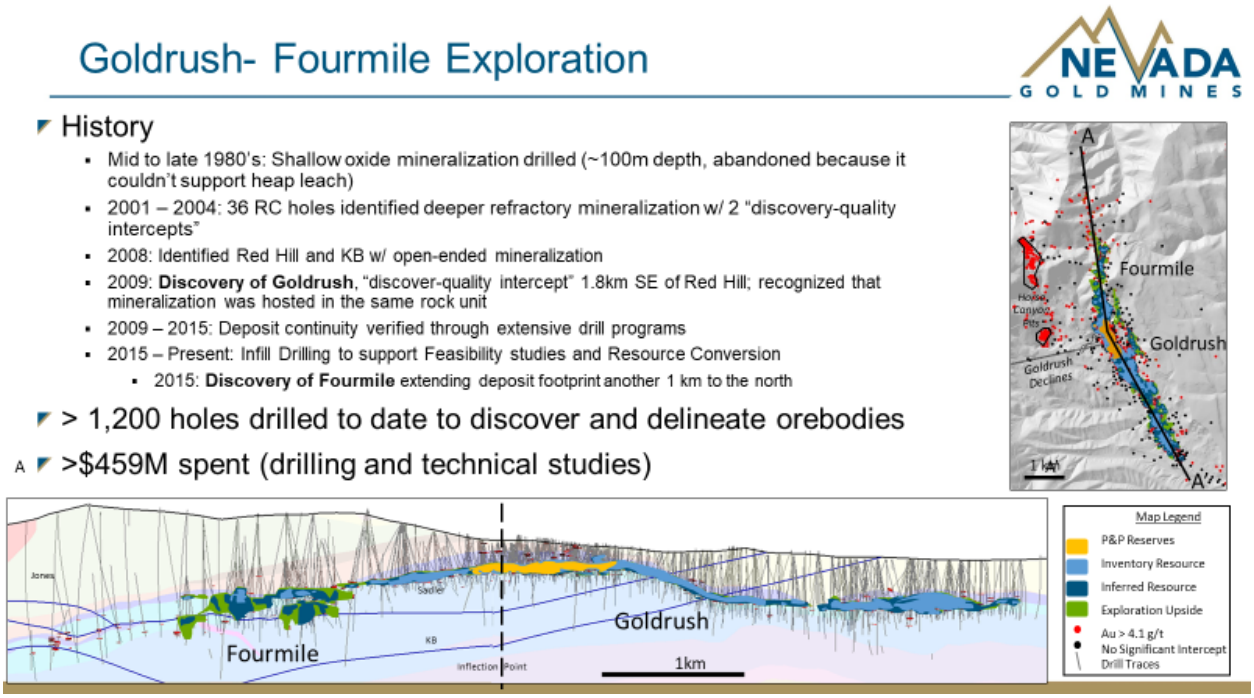


Deposits have compact footprints



Fourmile deposit footprint is 3,000 ft long, and mineralization is 30 -200 ft thick.

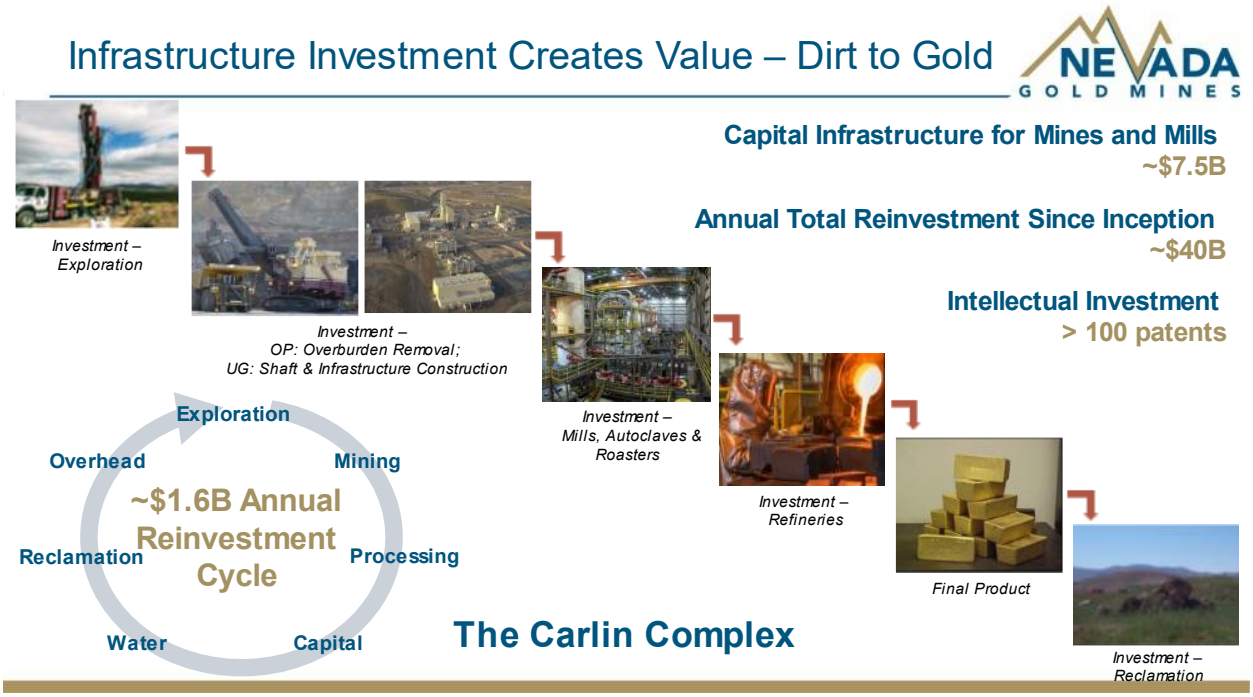
Commercial deposits, in the U.S. and around the world, are getting deeper and harder to find, and the time between discoveries is lengthening. Our Fourmile exploration project in Nevada is a good example of this. As depicted above, that deposit is over 2000 feet below ground surface, meaning that every drill hole costs between $500,000 and $1 million. On the right-hand side of the figure above, a small yellow shape is superimposed to represent the size of the surface footprint of the Fourmile deposit—it is 3000’ x 650’. The mineralized rock, or “ore body,” is an irregular shape inside of the surface footprint, that is half a mile deep and between 30 feet and 200 feet wide. Orebodies like these are very difficult and expensive to find. And federal and state governments are not investing the resources to find them. If miners don’t find them, they will not be found. This is why self-initiation remains so important to the modern Mining Law.



Tenure

It takes years – often decades – and hundreds of millions of dollars to turn a successful exploration target into a mine. Nevada Gold Mines' Goldrush project is a good example. Goldrush was originally identified as prospective through drilling in the mid-1980s, but not pursued at that time. In the early 2000s, based on better knowledge and better drilling and other technology, we found true ore grade mineralization. Now, in 2021, over $459 million, 1200 drillholes, and extensive environmental studies later, Nevada Gold Mines has applied for a permit from the BLM to mine this deep ore body and is looking forward to initial production in 2023. This mine would not have happened without the provisions in the Mining Law that allow miners to hold claims securely while they explore, and sometimes to retreat and reassess to justify the continued investment in exploration and

development.



Open pits require a huge investment in pre-stripping to reach the ore deposit. Open pits are engineered facilities designed to reach the ore while removing the minimum safe amount of barren rock. For underground mines, the miner has to build the shafts, the underground access and surface infrastructure. As an example, the new third shaft at Nevada Gold Mines' Turquoise Ridge mine is nearing completion at a cost of about $300 million.

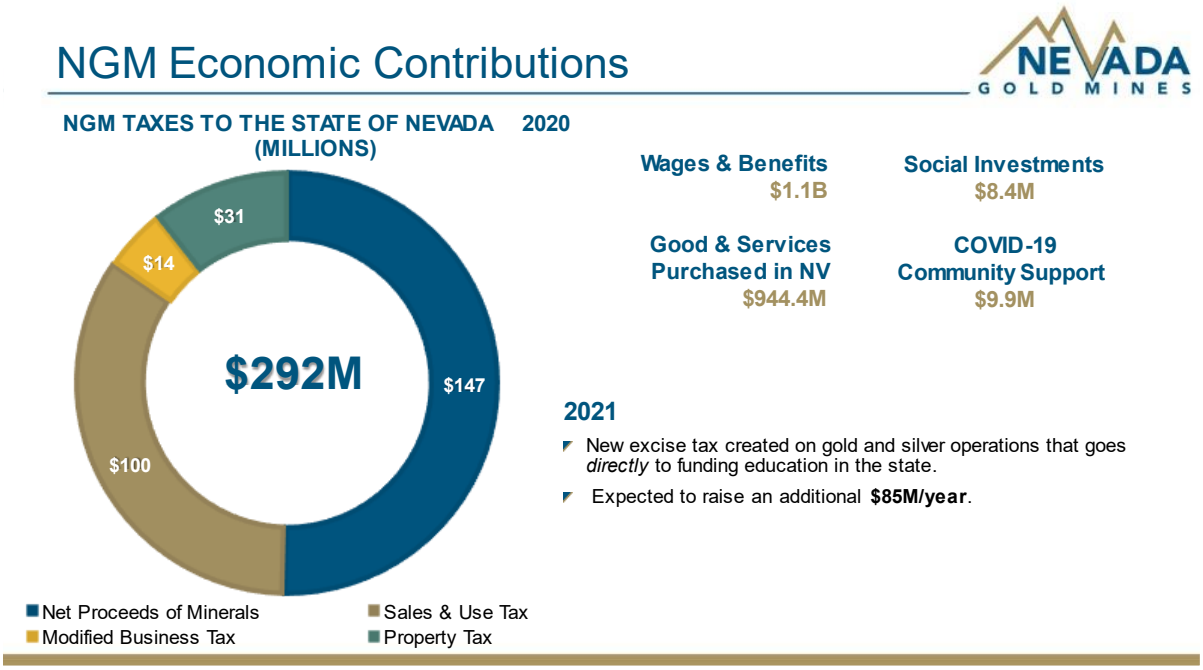
Even after removing ore from the ground, it still takes hundreds of millions of dollars of investment and technology to make a saleable product. Recovering the gold requires mills and special processing facilities, in our case called autoclaves and roasters, that are custom-designed for the specific ore. It would cost at least a billion dollars to replace any of our rosters or autoclaves. At the Nevada Gold Mines' Carlin complex in Nevada, the initial investment in the mills, roasters, autoclaves and mines was about $7.5 billion. Every year we continue to incur costs in operating and maintaining the facilities and equipment necessary to produce gold. Those expenditures have totaled $40 billion over the life of the Carlin Complex so far. Without the security of tenure that is afforded by the Mining Law, no company could or would put that much money at risk.

Royalty

As noted above, Barrick has long supported a prospective and reasonable net proceeds royalty for minerals produced from federal lands. Most important is the nature of the royalty. Barrick supports a net proceeds royalty because it will provide substantial royalty revenue to the U.S. government while allowing mineral production to continue during periods of low metals prices.

In the past, Congress has considered two types of royalties: gross and net. The subject of royalties is complex and there are numerous versions of gross and net royalties. But in simple terms, a "gross" royalty requires that an operator pay a percentage on the gross income derived from a particular mining claim or at a particular mine, before any cost deductions. For example, if a mine's total income from product sales in a given year was $100 million and the gross royalty rate was 4%, the miner would pay $4 million in royalties. Alternatively, a "net" royalty or a "net proceeds" royalty allows the operator to make certain deductions from total income before the royalty is calculated. Those deductions typically include the actual costs of extracting, transporting, processing, or refining the mineral, including wages and related labor expenses, equipment, fuel and other cost components. Deductions also typically include the costs of mine development, environmental studies and compliance, and reclamation and closure. The Nevada Net Proceeds tax, which generated over $200 million for the state in 2020, is an example of a net royalty.

For a number of important policy reasons, a net royalty is preferable to a royalty on gross income. First, it is important that Congress consider any royalty in the context of the entire tax contribution from the industry.

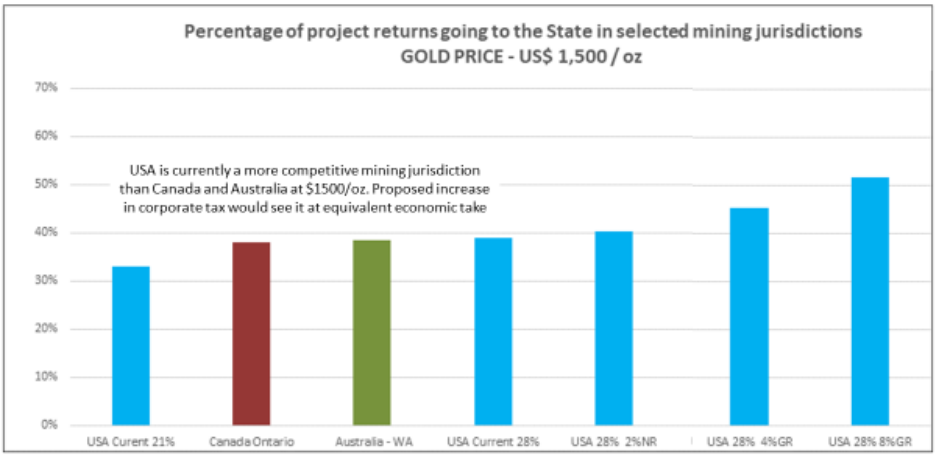


Even without a royalty, mining is a substantial taxpayer. In Nevada, we are the 12th largest industry, but we pay the second highest amount in state taxes as a percentage of revenue. As the chart above illustrates, in 2020 we paid $292 million in state taxes. In addition, in the last Nevada legislative session, the mining industry supported a bi-partisan effort to increase its net proceeds of mines tax by another 60% by creating a new excise tax earmarked for education.

Comparison of Total US "Take" to Other Developed Countries

Percentage of returns going to the government
Gold Price : US$ 1,500/oz

BARRICK



To evaluate the impacts of a federal royalty on the total industry tax burden, we created a "synthetic stand-alone gold mine" comparison of the tax regimes in the United States, Canada and Australia. If we assume a federal income tax rate of 28 percent (we realize corporate income tax rates are a moving target right now), at $1,500/oz. gold (near the long-term consensus gold price), Canada, Australia and the U.S. have a similar total tax burden of about 38 to 39%, when all other state and provincial taxes are taken into account. A 2 percent net royalty, such as that proposed in the National Mining Association principles (attached), increases the U.S. share (state and federal) to about 41 percent. At the higher 8% gross royalty rate proposed by the House of Representatives, the U.S. total tax take exceeds 50%. If the gold price drops, as it inevitably will (the gold price in 2015 was about 40% lower than it is today), a gross royalty dramatically impacts the viability of the operation, giving the U.S. about 2/3 of the take, significantly narrowing the range in which it can be profitable. If the U.S. tax and royalty combined take reaches even 50%, the US is then taking a similar share as many developing nations, and given the much higher labor costs and much longer timelines from discovery to production because of permitting in the U.S., mines located in the United States become drastically uncompetitive compared with other jurisdictions. Under those conditions, it is inevitable that exploration and development investments will be redirected to those other jurisdictions.

Why Hardrock Minerals are Different From Other Commodities

A hardrock royalty is not a cost that can be passed on to the buyer. Hardrock miners are "price takers"—metal prices are fixed daily by the global market. This is in sharp contrast to coal, which is often cited as a model for federal hardrock royalties. With coal, the royalty is typically passed on to the power plant that buys the coal, who in turn recovers that royalty from electricity rate payers. In effect the coal royalty becomes a user tax on everybody. In contrast, in the case of a royalty on gold or other hard rock minerals where prices are set in global markets, the burden of a royalty falls solely on the miner.

Disadvantages of a Gross Royalty

As a cost, any royalty on a mineral deposit will reduce the amount of ore by making marginal ore uneconomic. A gross royalty is, however, particularly regressive for hardrock minerals. It shrinks the resource by making more marginal mineralization uneconomic to mine. In this way, a gross royalty eliminates a return on this marginal mineralization for the federal and state governments, and eliminates jobs unnecessarily early. More mines will close early, less product will be available for commerce, and less tax revenues will be generated.

Instead of benefitting all stakeholders by generating the maximum production and return from each deposit, a gross royalty dramatically "shrinks the pie" that generates the return. Because of the huge investments that are necessary to bring a hardrock mine online, a gross royalty affects hardrock mining uniquely. Rather than taxing the raw ore, the gross royalty becomes a tax on the value that is added by the miner through the use of investment to create the product at the mine mouth.

Further, a gross royalty increases the risk of (and disincentivizes) capital investment because as the available return is reduced, the risk of investing significant capital into a project becomes higher, especially given expected fluctuations in the prices of gold and other minerals. Thus, mineralization gets left in the ground and generates no return, either for the miner or the government.

Finally, a gross royalty picks winners and losers because the deposits that have high enough grade can better absorb a gross royalty, while a lower grade or marginal deposit, which would otherwise still generate taxes, jobs and materials, becomes uneconomic.

Advantages of a Net Royalty

In contrast, a net royalty allows the miner to recoup capital investments through the inevitable commodity price cycles. A net royalty normalizes for ore grade because certain costs are covered, and in this way some more marginal mines can still survive and provide necessary materials and employment. The mine life is extended because the miner can afford to mine and process marginal ore.

A net royalty allows the industry to survive the inevitable dips in the commodities cycles while giving the United States the benefit of the peaks in the cycles. In other words, when revenues are low due to the price (which is out of the miner's control), operations would pay less, allowing them to reduce costs and maintain production and employment during tough times. Conversely, when net revenues are high, the royalty revenue returned to the government is higher. When looked at this way, the industry and the government win in both cases: (1) preserved employment, tax revenues, product output, and some returns in cycle troughs; and (2) higher returns and employment in cycle peaks.

Conclusion

Thank you for your time. I am happy to answer any questions or submit additional materials if requested.

Principles for Royalty from Hardrock Mineral Production on Federal Lands

New Royalty

- ROYALTY: Impose a **PROSPECTIVE, NET** royalty in range of **2** percent.

- DEDUCTIONS/CREDITS: Allow deduction of costs and charges (including depreciation and amortization) attributable to permitting, baseline studies, extraction, processing and transportation, and taxes – similar to other federal royalty structures – to ensure **royalty is imposed on profits**. Allow claims maintenance and occupancy fees to be credited against royalty amount owed.

- SMALL MINER EXCLUSION: Not applicable when net value of production from mining claims subject to the royalty is less than $500,000.

- WAIVER, SUSPENSION OR REDUCTION: Allow Secretary of the Interior to waive, suspend, or reduce the royalty – similar to other federal royalty structures – to promote development or keep a mine successfully operating.

Increased and New Fees

- CLAIMS MAINTENANCE FEE: **Increase fee** to raise funds – presumably for abandoned mine land cleanup – since new royalty will create limited revenue in early post-enactment years. Provide a waiver from claims maintenance fee for claimholders with 10 or fewer claims.

  OCCUPANCY/USE FEE: Impose **new fee** to raise funds – presumably for abandoned mine land cleanup – since new royalty will create limited revenue in early post-enactment years.

- PREVENTING DOUBLE-DIP: Sunset new and increased fees after 10 years or allow operations to credit the payments of such fees against amounts owed in royalties.

NMA estimates that new and increased fees could generate approximately $100 million per year. These could be directed towards increased funding of AML.

Competitive Domestic Supply Chains

- SECURITY OF TENURE: Provide security of tenure by tying it to the payment of claims maintenance fees in order to provide certainty regarding operators' ability to access federal lands for mineral production.

- PERMITTING EFFECIEINCIES: Include provisions to reduce permitting delays. Unenacted bipartisan permitting provisions of S.1317 (116th Congress) may provide a guide for this Congress.

Exhibit II

July 2021 Questions for the Record for the July 27, 2021 House Energy & Mineral Resources Subcommittee Hearing on "The Toxic Legacy of the Mining Law of 1872."

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

Responses to Questions for the Record
Submitted by:
Debra W. Struhsacker
on behalf of
The Women's Mining Coalition

August 10, 2021

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

Responses to Questions for the Record
Submitted by:
Debra W. Struhsacker
on behalf of
The Women's Mining Coalition

I. Introduction

On behalf of the Women's Mining Coalition I would like to thank the House Subcommittee on Energy and Mineral Resources for the opportunity to testify and for these follow-up questions to the July 27, 2021 hearing. I especially appreciate Question No. 3 and the opportunity to provide more complete answers to Representative Porter's several questions. Although I did my best to respond to her important questions in the short time she allowed, the questions merit the more detailed responses in Section IV below. I hope Representative Porter and the other Subcommittee members find my responses to the questions listed below and discussed herein useful:

- Question No. 1: A recent Government Accountability Office (GAO) report released on July 26, 2021 refers to 143 mining operations in Nevada, and yet your testimony states that there are only 26 active mines in that state. Could you explain this discrepancy? (Please see Section II.)

- Question No. 2: Legislation from last Congress to "reform" the General Mining Law of 1872 included several major provisions, such as the radical step to change the existing claims maintenance system to a more traditional leasing system. Another proposal is to assess high royalties on not new mines, but also on existing operations. Could you tell us about the takings implications for the federal government if these policies went into effect? (Please see Section III.)

- Question No. 3: At the end of the hearing, Representative Porter asked you a series of questions, but unfortunately, she did not allow you to complete your answers. We'd like to offer you the opportunity to respond fully here, specifically regarding: the age of the General Mining Law; royalty proposals; civil penalties; and the business climate for new domestic mining. (Please see Section IV.)

II. Question No. 1: The Discrepancy Between the GAO Report on the Number of Nevada Mining Projects

The information presented in the Women's Mining Coalition's July 27th hearing testimony stating that there are only 26 active metal mines in Nevada was based on data compiled by the Nevada Bureau of

Mines and Geology[1], one of the Nevada state agencies charged with tracking mineral production from Nevada mines. The discrepancy between our testimony and the Government Accountability Office's (GAO's) finding that there are 143 Nevada mines is due to GAO's misinterpretation of the data that the U.S. Bureau of Land Management (BLM) and the U.S. Forest Service (USFS) provided to GAO on Plans of Operation in each state. BLM and USFS provided information on the *number* of Plans of Operation – not the *type* of Plans of Operation. GAO made the incorrect assumption that all of the Plans of Operation in the list provided by BLM and USFS authorize mining and mineral production. As explained below, most Plans of Operation are for mineral exploration projects – not for mining operations.

On BLM-administered lands, the 43 C.F.R. Subpart 3809 surface management regulations require a Plan of Operations for any hardrock (locatable) mineral activity that disturbs five acres or more. Just because a project has a Plan of Operation does not mean it is a mine. In fact, most Plans of Operations are for exploration – not for mining projects. On National Forest System lands, the 36 CFR Part 228 Subpart A surface management regulations require a Plan of Operation for any mineral-related surface disturbance – even for small mineral exploration projects that disturb fewer than five acres. In fact, GAO's data for National Forest System lands show numerous Plans of Operation that authorize less than one acre of surface disturbance.

The supplemental data[2] that GAO provided for its May 28, 2020 letter report to Chairman Grijalva[3] can be used to distinguish between Plans of Operation for exploration projects and Plans of Operation for mining projects. Most of the listed Plans of Operation are for small-acre projects that are clearly exploration projects. Except for a few small "mom and pop" underground operations and/or placer operations, it is not possible to develop a metallic mineral mine on footprints ranging from five to even several hundred acres.

Based on my experience, I used the following criteria to categorize and differentiate between the exploration and mining Plans of Operation in Nevada in GAO's database:

- The metallic mineral Plans of Operation that authorize surface disturbance of 1,000 acres or more are clearly mining operations;

- Metallic mineral Plans of Operation where the authorized surface disturbance ranges between 500 - 1,000 acres could be for either an exploration or a mining project. There is no way to differentiate between the two using the data that BLM and USFS provided to GAO. However, there are only five Nevada Plans of Operation that fall within this category;

- Metallic minerals Plans of Operation that disturb fewer than 500 acres will generally be for exploration projects. (It is not uncommon for advanced-stage mineral exploration projects to have Plans of Operation that authorize several hundred acres of surface disturbance.); and

- Industrial minerals mines can range from under ten acres to several hundred acres, as shown in the supplemental data.

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[1] 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

[2] https://www.gao.gov/products/gao-20-520sp and https://www.gao.gov/assets/710/707198.csv

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

Based on these categories, I determined that the 143 Nevada Plans of Operation noted in GAO's May 2020 report are comprised of the following types of mineral operations:

- 34 metallic minerals (gold, silver, copper, or molybdenum) Nevada Plans of Operation exceed 1,000 acres of surface disturbance and very likely represent mining operations;

- 42 Nevada Plans of Operation are for industrial minerals that are most likely for mining operations;

- 62 Nevada Plans of Operation for gold or other metallic minerals that disturb less than 500 acres are probably for exploration projects; and

- 5 metallic minerals Nevada Plans of Operation that authorize disturbing more than 500 acres but fewer than 1,000 acres could be either exploration or mining operations. More data from BLM or the USFS would be required to determine whether these Plans of Operation are for exploration or mining projects.

The acreage categories and methodology used to classify the Nevada Plans of Operations in GAO's database could be applied to the other western states with Plans of Operation for locatable minerals to develop a better estimate of the number of active mining operations on lands subject to the Mining Law[4]. A quick review of the GAO's data reveals that like Nevada, most of the Plans of Operations in the other western states are for small-acre projects that are likely to be exploration projects rather than mining operations. Although a simple counting of all of the Plans of Operations for locatable mineral activities adds up to 728[5], this does not mean there are 728 active mines in the western mining states because most of the Plans of Operations authorize surface disturbance for exploration projects; they do not authorize mining.

Knowing the number of active locatable mineral mines on lands subject to the Mining Law is a key piece of information that lawmakers should have before making major changes to this law. Unfortunately, the information that BLM, USFS, and GAO have provided is insufficient; the number of active metal mines operating under the Mining Law nationwide is currently unknown.

As shown in Table 1 on the next page, Nevada is by far the largest public lands mining state with over half of the country's active mining claims and nearly half of the Plans of Operation submitted and reviewed in FY 2019. If the ten other western mining law states in Table 1 had a combined total of another 26 active mining operations on public lands, there might be only 52 operating mines subject to the Mining Law. Lawmakers should consider whether it makes sense to establish and administer a federal royalty program for such a limited number of mining operations.

In considering changes to the Mining Law, it is important for Congress to have accurate information on the number of active metal mining operations and the level of mineral exploration on lands subject to operation of the Mining Law. This can only be achieved if BLM and USFS provide the GAO and Congress with better data.

[4] 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."

[5] https://www.gao.gov/products/gao-20-461r

Table 1
FY 2019[6] Active Mining Claims, Plans of Operation Reviewed* and Acres of the Federal Mineral Estate[7]

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.

The May 2020 GAO report used data that BLM obtained from BLM's Legacy Rehost (LR) 2000 land management database, which was not optimally organized to distinguish between Plans of Operation for mineral exploration versus mining. BLM is in the process of replacing the LR 2000 database system with the Mineral & Land Record System (MLRS).

Congress and GAO should determine whether the MLRS database can be queried in a way to readily distinguish between Plans of Operation for exploration projects versus mining operations. If it is not already designed to differentiate between exploration and mining Plans of Operation, Congress should direct BLM to modify the MLRS to give GAO, Congress, and BLM policymakers reliable data on the number of active mining operations on public lands subject to the Mining Law.

As stated in our July 27th testimony, GAO's May 2020 report shows 191,889 acres of authorized surface disturbance for both mining and mineral exploration Plans of Operation in Nevada, which is less than 0.32 percent of the roughly 60 million acres of the federal minerals estate in Nevada. As shown on Table 1, the other western states with lands subject to the Mining Law have significantly fewer mining claims and Plans of Operation than Nevada. Therefore, authorized mineral exploration and mining activities in these states impact even less land than mining's footprint in Nevada. The supplemental data for GAO's May 2020 report show BLM and the USFS have authorized a total of 317,783 acres of mineral-related surface disturbance throughout the eleven western Mining Law states (including Nevada), which is a miniscule 0.05 percent of the 635 million acres (Table 1) of the federal mineral estate subject to the Mining Law[8].

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[6] https://www.blm.gov/sites/blm.gov/files/PublicLandStatistics2019.pdf, Tables 3-22 and 3-23.
[7] https://www.blm.gov/sites/blm.gov/files/PublicLandStatistics2019.pdf, Table 1-3.
[8] The actual surface disturbance associated with mineral exploration and mining is less than the acres of authorized surface disturbance in these Plans of Operations because mineral activities typically occur on only a portion of the authorized surface disturbance acres because the entire Plan of Operations project area is not mineralized.

The limited number of mines and the small footprint of mining activities signals the Mining Law debate is about a minor use of the Nation's public lands. The small amount of public lands being used nationwide under the Mining Law coupled with the dwindling mineral production statistics should establish the contours of future legislative debates about changing this law – especially in light of the urgent and growing demand for critical minerals for the clean energy revolution. Finding ways to reverse this decline by increasing mineral exploration and production should be the focus and purpose of any future legislation to amend the Mining Law.

III. Question No. 2: Takings Implications of Eliminating Mining Claims and a Retroactive Royalty

The Mining Law bill that was debated during the 116th Congress, H.R. 2579, proposed radical changes to the Mining Law that included eliminating mining claims by requiring mandatory conversion of mining claims into mining leases and a retroactive royalty on existing mining claims. These changes would substantially interfere with – and even eliminate – possessory rights under the Mining Law. If enacted, H.R. 2579 would precipitate unconstitutional takings that would expose the federal government to takings litigation and require the federal government and ultimately U.S. taxpayers to compensate mining claim owners[9] for the loss of their properties. The following sections describe the property rights created under the Mining Law, the care with which Congress' previous amendments to the Mining Law explicitly preserved claim owners' Mining Law property rights, and the takings implications associated with the leasing and royalty provisions in H.R. 2579.

A. Overview of Mining Law Property Rights

The Mining Law is a property law that gives U.S. citizens the right to: 1) enter, occupy, and use lands for mineral exploration and development purposes; 2) locate mining claims on lands in the western U.S. that are open to the operation of the Mining Law; and 3) secure a property interest in the locatable mineral deposits that the land may contain. The Mining Law provides mining claim owners with the security of land tenure necessary to attract and justify private capital investment in exploring for and developing mineral resources on public lands.

Specifically, Section 22 of the Mining Law creates a statutory right of free access that makes lands subject to the Mining Law "free and open" for mineral prospecting, exploration, production, and uses and facilities reasonably incident to mineral activities. Exhibit 1 provides a complete discussion of this right.[10]

The rights granted in Section 22 of the Mining Law are self-executing, based on a self-initiation process that enables prospectors and geologists to use their experience and geologic knowledge to identify lands where there may be mineralization that warrants locating mining claims and further investigation. Mining Law property rights start with entry onto the public domain and the initial location of an unpatented

[9] It is not uncommon for a claim owner to lease her claims to a third-party lessee. Both the claim owner and the lessee would have takings claims against the federal government in the event that the mandatory conversion of claims to federal leases and the retroactive royalty in H.R. 2579 are enacted. As used herein, "claim owner" refers collectively to the entity that located the claim and to lessees.

[10] M-37057, Department of the Interior Solicitor's Opinion "Authorization of Reasonably Incident Mining Uses on Lands Open to Operation of the Mining Law of 1872," August 17, 2020.

mining claim, and continue seamlessly throughout the stages of the mining lifecycle, which is comprised of prospecting and exploration, mine development, mine operation, mine closure, and reclamation.

Self-initiation is especially critical during the prospecting and mineral exploration phases of the mining lifecycle when prospectors and geologists continually refine their mineral target concepts and exploration strategies. Because exploration is an iterative process that uses newly acquired information to vector towards mineralized zones, the ability to modify a claim block based on an evolving understanding of the geology of an area is critically important.

The 1 in 1,000 odds[11] of making a discovery of a mineral deposit that can be developed into an economically viable mine are akin to looking for the proverbial needle in the haystack. The geologic challenges and daunting odds of exploring for rare mineral deposits that are very difficult to find make self-initiation absolutely essential to the mineral exploration and discovery process. Self-initiation allows geologist to use information obtained from mapping, sampling, geophysical and geochemical surveys, and drilling to identify lands with potentially favorable geology and mineralization, locate additional claims on these lands, and test them with additional mapping, sampling, drilling, etc. This exploration process can take a decade or longer and may involve several sequential claim owners until one of them successfully discovers a mineable mineral deposit.

The Mining Law's possessory rights associated with mining claim ownership are legally recognized real property interests. Because these possessory rights commence when the claim owner enters onto the public domain and locates an unpatented mining claim, the possessory rights are established before there is a discovery of a valuable mineral deposit. Prior to 1994, when Congress enacted a patent moratorium[12], claim owners with a discovery of a valuable mineral deposit could apply for a patent to their claims pursuant to Section 29 of the Mining Law, which would cut off the federal government's paramount title to the land and give the claim owner fee simple title to both the land and the minerals. However, there was no requirement for claim owners to obtain a patent to maintain their property interests in their unpatented mining claims.

Exhibit 2[13] provides a detailed analysis of the judicial rulings recognizing Mining Law property rights and discusses the caselaw[14] establishing that "unpatented mining claims are property protected by the Fifth Amendment against uncompensated takings." Thus claim owners who comply with the statutory requirements, including payment of the annual claim maintenance fee, have a durable property right that is not subject to a time limit so long as the claims are maintained and held in good standing.

B. Legislative History of Preserving Mining Law Property Rights

Congress has amended the Mining Law many times since 1872, with each amendment carefully preserving claim owners' Mining Law property rights. There is thus a well-established legislative history that

[11] Hardrock Mining on Federal Lands, 1999, National Research Council, National Academy of Sciences, 247 p.
[12] Since October 1, 1994, Congress has enacted a moratorium in Department of the Interior appropriations acts on the patenting process that prohibits BLM from accepting or expending any funds to process patent applications.
[13] American Exploration & Mining Association *Mining Law Fifth Amendment Takings Analysis,* July 2021.
[14] For example: *Kunkes v. United States,* 78 F.3d 1549, 1551 (Fed. Cir. 1996) (citing *Best v. Humboldt Placer Mining Co.*, 371 U.S. 334, 336 (1963);, 371 U.S. at 334); *see also Chittenden v. United States*, 126 Fed. Cl. 251, 262 (2016) (holding that a valid unpatented mining claim constitutes property fully protected by the Fifth Amendment); *see also Forbes v. Gracey*, 94 U.S. 762, 766 (1876); Skaw, 740 F.2d at 936; *Davis v. Nelson*, 329 F.2d 840, 845 (9th Cir. 1964); *Clawson v. United States*, 24 Cl. Ct. 366, 369 (1991); *Freese v. United States*, 639 F.2d 754, 757 (Ct. Cl. 1981).

acknowledges the property rights associated with unpatented mining claims during all stages of the mining lifecycle. Table 2 summarizes some of the laws that have amended the Mining Law and preserved Mining Law property rights.

Table 2
Amendments to the Mining Law that Explicitly Preserve Mining Law Property Rights

Laws Amending the Mining Law	Preservation of Mining Law Property Rights
1910: 43 U.S.C. Section 142 - The 1910 Pickett Act, which FLPMA repealed in 1976	bona fide occupants or claimants in "diligent prosecution of work leading to" discovery not to be affected by withdrawal order "so long as such occupant or claimant shall continue diligent prosecution of said work"
1920: 30 U.S.C. § 181 *et seq* – The Minerals Leasing Act, (MLA) Section 37 Savings Clause	"…[D]eposits of coal, phosphate, sodium, oil, oil shale, and gas, herein referred to, in lands valuable for such minerals…shall be subject to disposition only in the form and manner provided in this Act, *except as to valid claims existent at date of the passage of this Act and thereafter maintained in compliance with the laws under which initiated, which claims may be perfected under such laws, including discovery*." (Italics emphasis added)
1955: 30 U.S.C. Section 615 - The 1955 Surface Use Act	"Nothing in this subchapter and sections 601 and 603 of this title shall be construed in any manner to limit or restrict or to authorize the limitation or restriction of any existing rights of any claimant under any valid mining claim heretofore located…
1955: 30 U.S.C. Section 624 - The 1955 Mining Claims Rights Restoration Act applicable to power development reservations	"[N]othing in this chapter shall be construed to limit or restrict the rights of the owner or owners of any mining claim who are diligently working to make a discovery of valuable minerals at the time any future withdrawal or reservation for power development is made."
1976: Federal Land Policy and Management Act, 43 U.S.C. § 1701 *et seq.* (FLPMA)	"…no provision of…Section [302(b)] or any other section of this Act shall in any way…impair the rights of any locators or claims under that Act [the Mining Law of 1872] or, including, but not limited to, rights of ingress and egress."
1992: Claim Maintenance Fee Department of the Interior and Related Agencies Appropriations Act of 1993[15] and subsequent Department of the Interior appropriations bills	Unpatented mining claim owners must pay an annual rental fee that applies to all claims regardless of their lifecycle stage or discovery status.

The 1920 MLA removed oil, gas, oil shale, and other non-metalliferous minerals from the Mining Law and established a leasing and royalty system for future development of these resources. The MLA's Section 37 savings clause eliminated Fifth Amendment takings concerns by exempting preexisting unpatented mining claims from the new leasing and royalty system. The MLA is the only major amendment to the Mining Law that substantively changed the claims interest structure for mineral deposits on public lands into a leasehold process. However, the MLA does not include a blanket conversion of then existing claims into leases – in marked contrast to the mandatory leasing provision in H.R. 2579. Rather, in 1920, Congress surgically amended the Mining Law to preserve the Mining Law property rights associated with all properly maintained claims for oil, gas, oil shale, etc. in existence on the date of enactment.

[15] Pub. L. 102–381, 106 Stat. 1374 (1992)

If Congress determines that a future leasing system is appropriate for hardrock minerals, it should replicate what Congress did in the 1920 MLA and enact a savings clause modeled after the MLA Section 37 savings clause that exempted all existing claims from the new leasing system and royalty, and grandfathered their status under the Mining Law in order to preserve the Mining Law property rights associated with these mining claims.

The FLPMA Section 314 claim recordation requirements substantially changed the Mining Law by requiring claim owners with claims located prior to FLPMA's enactment date to record their mining claims and sites within three years to keep their claims and sites in good standing. FLPMA's claim recordation requirements and deadlines conditioned the rights under the Mining Law by creating a new obligation for claim owners and a process by which the federal government could void stale mining claims and determine where active claims were located. However, it did not extinguish or in any way diminish the rights of claim owners who complied with the new Section 314 recordation requirements and deadlines. Unlike the H.R. 2579 mandate to convert mining claims to minerals leases, FLPMA's Section 314 recordation requirements fully protected claim owners' property rights to their mining claims and mill and tunnel sites through compliance with the Section 314 recordation requirements.

The claim maintenance fee that Congress enacted in 1992 is the most recent Congressional action affecting the Mining Law. This new fee recognizes claim owner's rights associated with mining claims and sites so long as the annual fee is timely paid. Payment of this fee secures claim owners' rights to use and occupy their mining claims and sites, subject to compliance with the applicable surface management regulations (e.g., the 43 C.F.R. Subpart 3809 regulations for BLM-administered lands and the 36 C.F.R. Part 228 Subpart A regulations for National Forest System lands), and all other applicable state and federal environmental protection regulations. When initially enacted in 1992, the annual claim maintenance fee was $100 per claim. The claim maintenance fee amount is indexed to the Consumer Price Index and adjusted accordingly every five years. The current claim maintenance fee is $165 per claim[16].

C. Takings Implications of the Leasing Provision in H.R. 2579

In striking contrast to this long history of Congressional actions to preserve rights under the Mining Law, the leasing provisions in H.R. 2579 would abruptly terminate current claim owners' Mining Law property rights by eliminating mining claims and substituting term-limited and acreage-constrained discretionary leases. Claim owners would either have to make applications to convert their mining claims to mineral leases or completely forfeit their claims. H.R. 2579 would eradicate the self-initiation process and replace it with a leasing program that would make federal officials responsible for deciding where and when geologists can look for minerals and where and when miners can develop mines. Abolishing mining claims would extinguish claim owners' property interests in their claims. Therefore, legislation that includes a leasing program modeled after H.R. 2579 would expose the federal government to Fifth Amendment takings claims.

Since 1993, the requirement to pay annual claim maintenance fees creates an investment-backed expectation that payment of this fee constitutes a property rental agreement between the claim owner-payee and the federal government which confirms the claim owners' Mining Law rights to use the surface of the land to explore, develop, mine, and reclaim their mining claims during the fiscal year(s) for which

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

the fee has been paid. The mandatory conversion of claim owners' mining claims into mineral leases would substantially devalue the investments made to explore and develop their claims, including the many years for which they have paid the claim maintenance fee rent for the right to use their mining claims.

In considering the takings implications of the mandatory lease conversion in H.R. 2579 or in future Mining Law bills, Congress should recognize that the owners of the roughly 400,000 currently active mining claims and sites have collectively invested billions of dollars in exploring and developing their claims and in paying annual claim maintenance fees. According to BLM's 2019 Public Lands Statistics, claim owners paid over $71 million in claim maintenance fees in FY 2019 to keep their claims in good standing. Since 1993, claim owners have paid the federal government $1,279,856,765 in claim maintenance fees.[17]

If Congress enacts a future leasing program for hardrock minerals, it should include a savings clause similar to the Section 37 savings clause in the 1920 MLA. Like the MLA Section 37 savings clause, any future legislation should exempt all existing claims from any new leasing system and any new royalty program in order to preserve the Mining Law property rights associated with preexisting mining claims and minimize the likelihood of Fifth Amendment takings claims.

D. Takings Implications of the Retroactive Royalty Provision in H.R. 2579

The proposed royalty in H.R. 2579 would apply retroactively to mining claims located prior to enactment. In many cases, companies, lessees, and individuals have held their existing claims for many years in reliance on their property rights and security of tenure under the Mining Law. Claim holders have advanced their claims at great expense by investing private capital to pay for exploration, development, and feasibility studies, and to obtain project financing for building and operating mines. Imposing a retroactive royalty on existing claims would amount to a taking of each claim holder's revenue interests in minerals and mineral deposits covered by the claim — something they are entitled to under the Mining Law. Additionally, a retroactive royalty would upend the financial arrangements that have paid for the mineral exploration and development work, substantially interfering with claim holders' and their investor's and financier's investment-backed expectations based on these property rights. Thus multiple entities could pursue takings claims.

Mining law legislation that would diminish, terminate. or partially take possessory rights in unpatented mining claims by replacing them with something less, like a lease with term limits and acreage restrictions[18], or imposing a royalty that lowers the claim holder's net revenue interests by reducing the proceeds of mineral development, would be an unconstitutional taking that would require compensation. The caselaw includes many examples of governments exercising the power of eminent domain to condemn mining claims for rights of way or other public purposes and having to compensate claim owners for the loss of their mining claims. (See Exhibit 2, pages 5 and 6).

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[17] https://www.blm.gov/sites/blm.gov/files/PublicLandStatistics2019.pdf, Table 3-25.

[18]The temporary and spatially constrained prospecting license in H.R. 2579 is completely inappropriate and unworkable for hardrock minerals. Under H.R. 2579, 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 arbitrary acreage limit into perspective, most promising mineral exploration projects are typically comprised of several hundred to several thousand 20-acre mining claims to give the owner the ability to conduct mineral exploration over a broad area with mineral potential. Moreover, six years is not enough time to conduct the mineral exploration typically required to discover a valuable mineral deposit.

The retroactive imposition of a royalty on existing claims would be highly disruptive to the financial structure of the mining industry. Many projects in development or in production have relied on financing packages to develop and construct the mine. The retroactive royalty could trigger immediate defaults of those credit facilities, creating serious financial problems for operators and mine financiers.

It is important to understand that creating a new royalty burden on existing mines would affect more than just mine operators and the investors and financial institutions that have provided mine financing. The universe of potential takings claims litigants could include local governments and states, as well as companies and individuals with third-party agreements and rights in these mines. If a new royalty burden makes a mining operation uneconomic and precipitates premature closure, the retroactive royalty could also adversely affect BLM and USFS if these agencies have to use reclamation bonds to close and reclaim shuttered mine sites.

IV. Question No. 3: Responses to Representative Porter's Questions

A. The Age of the General Mining Law

As discussed in Section III and shown in Table 2 on Page 7, Congress has amended the Mining Law many times since its enactment in 1872. The amendments to this statute have updated it to address specific policy issues identified at the time the amendments were enacted. One of the amendments, the Federal Land Policy and Management Act of 1976, 43 U.S.C. § 1701 *et seq.*, (FLPMA), made landmark changes to the way in which BLM must administer public lands and regulate mineral activities, other natural resource development endeavors, recreation, and other land uses.

FLPMA includes four directives that apply to the Mining Law. Two of the directives are narrow and pertain to mining claims in the California Conservation Desert Area[19] and Wilderness Study Areas[20]. The other two amendments have broad applicability and substantially changed the Mining Law. The first broad amendment is the Section 314 claim filing and recordation requirements[21] discussed in Section III. The second broad amendment is the Section 302(b) mandate to prevent unnecessary or undue degradation[22] (UUD), which applies to all activities on BLM-administered lands.

FLPMA's UUD mandate specifically amended the Mining Law[23] and precipitated significant changes in the way in which mineral activities pursuant to the Mining Law must be conducted on BLM-administered lands. In response to the UUD mandate, BLM promulgated the 43 C.F.R. Subpart 3809 surface management regulations for locatable minerals, "Mining Claims Under the General Mining Law" (3809 regulations) in 1980 and updated these regulations in 2001. The statement of purpose in 43 C.F.R. § 3809.1(a) directs BLM to:

> "Prevent unnecessary or undue degradation of public lands by operations authorized by the mining laws. Anyone intending to develop mineral resources on the public lands must prevent unnecessary or undue degradation of the land and reclaim disturbed areas. This

[19] FLPMA Section 601 (43 U.S.C. § 1781)
[20] FLPMA Section 603 (43 U.S.C. § 1782)
[21] 43 U.S.C. § 1743
[22] 43 U.S.C. § 1732(b)
[23] See Exhibit 1, page 8.

> subpart establishes procedures and standards to ensure that operators and mining claimants meet this responsibility;"

43 C.F.R. § 3809.5 defines UUD as …conditions, activities, or practices that:

> (1) Fail to comply with one or more of the following: the performance standards in §3809.420, the terms and conditions of an approved plan of operations, operations described in a complete notice, and other Federal and state laws related to environmental protection and protection of cultural resources;
>
> (2) Are not "reasonably incident" to prospecting, mining, or processing operations as defined in §3715. 0-5 of this chapter;

43 C.F.R. § 420 includes a long list of environmental performance standards that must be met in order to prevent UUD and to protect the environment. The requirement at 43 C.F.R. § 3809.420(a)(6) is a powerful and effective umbrella environmental protection mandate that requires all mineral activities be conducted "in a manner that complies with all pertinent Federal and state laws." This broad regulatory compliance requirement makes the 3809 regulations dynamic; they update automatically to incorporate new or amended Federal and state environmental protection laws.

In 1974, 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 environmental impacts whenever possible, and provide substantial financial assurance (reclamation bonds) to guarantee that mines will be reclaimed when mining is completed. USFS' regulations at 36 C.F.R. § 228.8 include an environmental protection mandate similar to the UUD provisions in BLM's 3809 regulations that requires all mineral activities to be conducted in a manner to minimize adverse environmental impacts on National Forest surface resources.

FLPMA's Declaration of Policy in Section 102(a) updated and changed public land management principles, precipitating another significant modification to the Mining Law. FLPMA's Declaration of Policy directs the Secretary of the Department of the Interior (DOI) to manage public lands for multiple uses, requiring the Secretary and BLM to manage public lands in a manner that will:

> "protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use"[24]

FLPMA Section 102(a)(12) specifically applies to minerals, directing the Secretary to manage public lands:

> "in a manner which recognizes the Nation's need for domestic sources of minerals, food, timber, and fiber from the public lands including implementation of the Mining and Minerals Policy Act of 1970 (84 Stat. 1876, 30 U.S.C. 21a) as it pertains to the public lands"

[24] 43 U.S.C. § 1701(a)(8)

Mining critics' assertion that the Mining Law is antiquated and therefore must be overhauled overlooks the substantial ways in which FLPMA updated the Mining Law by including the UUD mandate and directing the Secretary to balance the need for minerals with other land uses including conservation and preservation. Since FLPMA's enactment in 1976, the acreage of conservation and preservation lands has grown from 250 million to 400 million, placing these lands off-limits to mining.[25]

Mining critics also point to the lack of specific environmental provisions in the Mining Law as another reason the law needs to be amended. This assertion ignores the numerous federal and state environmental protection statues that apply to mining as well as to other industrial and commercial undertakings. Table 1 in the Women's Mining Coalition's July 27, 2021 testimony lists the federal environmental laws applicable to mining. As discussed in our testimony, the U.S. Environmental Protection Agency (EPA) found in 2018 that the comprehensive and effective environmental regulatory framework and financial assurance requirements governing mining fully protect the environment.

Mining critics' assertion that the Mining Law needs to be updated because it does not include environmental protection measures is a misleading distortion that fails to acknowledge the numerous federal and state environmental laws and financial assurance requirements that govern mining on public lands. Their inaccurate portrayal of modern mining as unregulated or inadequately regulated ignores how FLPMA, BLM's and USFS' surface management regulations, and current federal and state environmental laws have substantially influenced mining on public lands, constituting a *de facto* update of the Mining Law. Mining critic's advocacy for the duplicative, unnecessary, and in some cases unrealistic environmental provisions in H.R. 2579 reflects their agenda to minimize mining on public lands and serves no purpose other than to insert misinformation and confusion into the Mining Law dialogue.

B. Royalties

An essential premise of a royalty that successfully provides revenue for the royalty owner from mineral production is that the miner (i.e., the royalty payer) and the royalty owner go to the bank together. Royalty owners and miners must embrace a mutually beneficial goal to discover and produce minerals so miners can make a profit and generate royalty payments for the royalty owner. In order to accomplish this goal, the royalty must be structured to allow the miner to operate an economically viable mine that is not burdened with an excessively high royalty rate or a royalty that does not allow reasonable deductions for the costs to produce minerals. An equally important aspect of a successful royalty agreement is that it must provide the miner with secure and durable land tenure in order to attract project financing and to justify making the enormous investments required to explore for minerals and develop a mine.

Unfortunately, the retroactive and confiscatory gross royalty proposed in H.R. 2579 has none of these attributes. Instead, it uses the royalty to create one of the many roadblocks in the bill designed to minimize and even eliminate mining on public lands.

Since the beginning of this decades-long debate about changing the Mining Law, the U.S. mining industry has always agreed to negotiate a federal hardrock royalty program that gives the public fair compensation for minerals produced from future discoveries on public lands. The industry has supported past legislative proposals that included a net royalty that allowed reasonable deductions for the costs to produce a

[25] John D. Leshy, *America's Public Lands – A Look Back and Ahead*, 67th Annual Rocky Mountain Mineral Law Institute, July 19, 2021. The acres of conservation and preservation lands includes BLM-administered lands, National Forest System lands, national parks and monuments, wilderness areas, and other special-management areas.

marketable mineral product. In addition to proposing a net royalty on future mineral production these bills have included the following key provisions:

- The proposed royalty was prospective and applied solely to future claims. Claims existing on the date of enactment would not have to pay the royalty;[26]

- The royalty proposals were structured to consider the entire cost burden of state and federal income taxes, sales taxes, other taxes, and private royalty agreements;

- The proposed royalty rates were reasonable and allowed mining companies to recover the significant capital costs and upfront investment in exploration and mine development;

- The bills maintained security of land tenure under the Mining Law; and

- The bills did not impose new, duplicative, and unreasonable environmental restrictions or include an unsuitability provision, like the Substantial Irreparable Harm (SIH) provision that Chairmen Grijalva and Lowenthal currently support.[27]

A confiscatory and retroactive royalty like that proposed in H.R. 2579, which is based on excessively high rates and does not allow reasonable deductions for the costs necessary to mine and process the minerals, will precipitate takings claims against the federal government, as discussed in Section III D, and will fail to generate meaningful royalty revenue for the public. Similarly, the royalty owner (in this case the federal government) cannot be inimical to mining and thwart mineral activities by creating barriers to mineral exploration and mining like those proposed in H.R. 2579.

The Utah School and Institutional Trust Lands Administration's (SITLA) royalty provisions for mineral production from state lands in Utah is an excellent example of a successful royalty program that generates royalty payments to benefit the trust's beneficiary, Utah's public school system[28]. The SITLA program is designed to encourage mineral production by providing lessees with security of land tenure and reasonable financial terms. Since its inception about 25 years ago, SITLA has collected over $2.5 billion in royalty payments from mineral production on trust lands.

The SITLA program recruits and invites mineral exploration and development investments on the trust's lands. In marked contrast to the unfavorable and unworkable leasing provisions in H.R. 2579[29], SITLA's leasing program reflects its fiduciary duty to its school system beneficiary to support exploration leading to development and generation of a royalty to benefit Utah schools. To achieve this objective, SITLA conducts basic geologic research to identify potentially mineralized targets and actively markets the mineral potential of its trust lands in order to stimulate leasing interests in its lands. Once SITLA identifies

[26] A prospective royalty is consistent with the Section 37 MLA savings clause discussed in Section III which grandfathered existing oil, gas, oil shale, and certain other claims under the Mining Law and exempted them from the MLA leasing and royalty provisions, thus avoiding federal takings claims.

[27] SIH or other unsuitability measures empower mine opponents to declare lands where minerals have been discovered unsuitable for mining and to place them off-limits to mining despite the enormous investments already made in discovering the mineral deposit.

[28] The discussion about SITLA's mineral leasing program is based on a July 2, 2020 conversation with Mr. Tom Faddies, Assistant Director of SITLA. Mr. Faddies can be reached at tomfaddies@utah.gov, 801-538-5100.

[29] A strong argument can be made that Congress has a similar fiduciary duty to U.S. taxpayers to create a workable, fair, and productive royalty program for hardrock mineral production from public lands.

a mineral prospect, companies that are potential lessees are contacted with the objective of negotiating an exploration agreement.

If exploration successfully identifies a mineral deposit that can be developed into a mine, SITLA and Utah regulatory agencies work efficiently with the lease holder to issue the necessary environmental protection permits and other project approvals required to build and operate the mine. Putting a mine into production as quickly as possible on SITLA trust lands benefits the local and state economies and generates royalties for the trust's Utah school system beneficiary.

The COVID pandemic provides a recent example of the importance of the SITLA royalties to Utah schools. When the pandemic required school closures and the shift to online learning, Utah schools used SITLA trust royalties to purchase laptops for students to enable them to transition quickly to remote learning and online classrooms.

C. Civil Penalties

As explained in our July 27th testimony, BLM's 3809 regulations already have effective enforcement measures to compel mine operators to comply with the conditions in a mine's Plan of Operation and other project permits including:

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

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

- Asking 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

- Assessing 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.

Additionally, there are strong compliance mandates and enforcement provisions in existing federal laws including but not limited to the federal Clean Water Act, Clean Air Act, Resource Conservation and Recovery Act, the Endangered Species Act, and the Archaeological Resources Protection Act. State environmental regulations also require compliance with project permits and can pursue enforcement actions against a non-compliant operator.

The scope of these enforcement authorities is consistent with the recommendation in the National Academy of Sciences'/Natural Research Council's (NAS'/NRC's) 1999 report entitled *Hardrock Mining on Federal Lands*[30] that:

> "Federal land managers…should have both (1) authority to issue administrative penalties for violations of their regulatory requirements…and (2) clear procedures for referring activities to other federal and state agencies for enforcement." (page 9)

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

Mining critics' demand to amend the Mining Law to authorize civil penalties is a solution in search of a problem. Based on my knowledge and experience, BLM and USFS rarely have to pursue harsh enforcement remedies because the vast majority of today's mine operators place a high value on complying with their operating permits. Moreover, enforcement provisions like suspension orders, permit revocation, and reclamation bond forfeiture create strong incentives for operators to address compliance issues in a timely manner.

The existing enforcement mechanisms in BLM's and USFS' surface management regulations achieve the important public purpose of quickly compelling environmental compliance and reclamation, which is a far better outcome than litigation that may take years to resolve. Finally, if fines and litigation are the goals, most federal environmental statutes authorize civil penalties.

D. The Business Climate for New Domestic Mining

The protracted and litigious permitting process for mineral exploration and development projects and Congress' perennial threats to overhaul the U.S. Mining Law have eroded investor support for U.S. mining, diminished mineral exploration and development, and hollowed out the U.S. mining industry. The average mine takes fifteen years to advance from discovery to production[31]. The multi-year U.S. permitting process is expensive and fraught with risks and uncertainties that deter mineral investments. In contrast, securing permits for mining projects in Canada and Australia takes roughly three years.

The serious decline in U.S. mining from 1995 to 2020 is readily apparent by comparing the U.S. Geologic Survey's (USGS') 1995 and 2020 net mineral import reliance charts[32] in Exhibit 3. In 2020, the U.S. imported between 50 to 100 percent of 30 critical minerals and was 100 percent import reliant for 17 minerals, 13 of which are critical minerals. In 1995, we were 100 percent import reliant for only eight minerals. The U.S. currently relies on foreign sources for lithium and copper, two essential clean energy minerals, 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 need to import lithium.

Section 40206(b)(4) of the recently introduced bipartisan Infrastructure Investment and American Jobs Act (H.R. 3684) recognizes the need to streamline the permitting process for critical minerals projects, citing the protracted permitting process as a serious barrier to domestic mining: "the Federal permitting process has been identified as an impediment to mineral production and the mineral security of the United States." Section 40206(c) of this bill directs the Secretaries of DOI and the Department of Agriculture to improve the environmental permitting process "to the maximum extent practicable, to complete the Federal permitting and review process with maximum efficiency and effectiveness by:

- Establishing and adhering to timelines and schedules in reaching final permitting and licensing decisions;

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

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[31] *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

[32] https://www.usgs.gov/centers/nmic/mineral-commodity-summaries

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

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

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

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

- Allowing concurrent rather than sequential reviews;

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

- Expanding and institutionalizing effective Federal permitting and review processes; and

- Developing communication mechanisms to articulate priorities and resolve disputes among Federal, regional, state and local agencies.

The Women's Mining Coalition is confident that the mine permitting process can be significantly streamlined *without* compromising or reducing environmental protection standards and requirements. Eliminating the barrier to mineral exploration and development that the current permitting process creates would be the most effective way to improve the business climate for future domestic mineral exploration and mining in order to reduce the Nation's reliance on foreign minerals.

Secondly, ending the 30-year threat to upend the Mining Law would be another significant step in improving the business climate for domestic mining. Three decades of Congressional debate to radically change the Mining Law sends a strong signal to the mineral investment community that investing in U.S. mineral projects is risky, leading some investors to support mining projects in other countries that are more welcoming and in some cases actively seek mineral investments.

V. Conclusions

Given the current need to increase domestic production of the minerals needed to achieve the Nation's clean energy objectives, Congress should take great care to ensure that the minerals policies it considers and potentially enacts are internally consistent. The recently introduced bi-partisan infrastructure bill noted above includes several provisions to increase domestic mineral production to respond to the demand for minerals as the building blocks of clean energy infrastructure.

For example, the Earth Mapping Resources Initiative in Section 40201 appropriates $320 million for the USGS to perform geologic mapping, conduct geophysical and geochemical surveys, and collect other data to help identify mineralized areas throughout the country, including western lands that are subject to the Mining Law. Section 40201(e) directs the USGS to complete "an initial comprehensive national modern

surface and subsurface mapping and data integration effort" not later than 10 years after the date of enactment.

This 10-year geologic data collection effort and expenditure of taxpayer funds clearly points to the need for additional information about the Nation's mineral resources and proves the federal government does not currently have the geologic data necessary to know where prospective mineral lease areas should be located. Moreover, these areas will not be known for at least 10 years, making the H.R. 2579 leasing program impossible to initiate for a decade or longer. Therefore, enactment of a leasing proposal like that proposed in H.R. 2579 would derail the Biden Administration's ambitious clean energy/carbon-reduction objectives for at least 10 years.

Finally, the Women's Mining Coalition would like to offer to arrange mine tours and/or webinars for members of the Subcommittee and staff to showcase the environmental protection measures and technology at modern mining operations, the significant career opportunities for women at all levels in the mining industry, and the important role that mining plays in the economic and social wellbeing of the communities where mines are located.

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 the opportunity to testify at the July 27th hearing and to answer the Subcommittee's questions.

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

EXHIBIT 1

M-37057, Department of the Interior Solicitor's Opinion
"Authorization of Reasonably Incident Mining Uses on Lands Open to Operation of the Mining Law of 1872"

August 17, 2020

United States Department of the Interior
OFFICE OF THE SOLICITOR
Washington, D.C. 20240

AUG 17 2020

M-37057

Memorandum

To: Director, Bureau of Land Management

From: Solicitor

Subject: Authorization of Reasonably Incident Mining Uses on Lands Open to the Operation of the Mining Law of 1872

I. Introduction

In 2005, the Solicitor issued an opinion that addressed when the Bureau of Land Management (BLM) was required to determine mining claim[1] validity before approving a mining plan of operations under 43 C.F.R. subpart 3809 (Subpart 3809). *Legal Requirements for Determining Mining Claim Validity Before Approving a Mining Plan of Operations*, M-37012 (Nov. 14, 2005) (2005 Opinion). The 2005 Opinion reviewed the Mining Law of 1872, 30 U.S.C. §§ 22-54 (the Mining Law), the Surface Resources Act of 1955, 30 U.S.C. §§ 611-615 (Surface Resources Act), and the Federal Land Policy and Management Act of 1976, 43 U.S.C. §§ 1701-1785 (FLPMA), and concluded that nothing in those authorities obligates BLM to determine mining claim validity before approving plans of operations under Subpart 3809 on federal lands open to the operation of the Mining Law. 2005 Opinion, at 2, 4, 5.

The 2005 Opinion replaced a Solicitor's Opinion issued just a few years prior. *See Use of Mining Claims for Purposes Ancillary to Mineral Extraction*, M-37004 (Jan. 18, 2001) (2001 Opinion), *rescinded by Rescission of 2001 Ancillary Use Opinion*, M-37011 (Nov. 14, 2005). The 2001 Opinion's core legal tenet was that the Secretary could authorize exploration, mining, or processing operations and uses reasonably incident thereto[2] "as a matter of right" under the Mining Law only if the operator had a valid mining claim. *See id.* at 11-13. The 2001 Opinion

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[1] Unless otherwise noted, references to "mining claims" include lode mining claims, placer mining claims, mill sites, and tunnel sites. Additionally, because a mining claim ceases to exist after the Department of the Interior (Department) issues a patent to the underlying lands and thus no longer represents a "claim" against the United States, references to "mining claims" should be understood to include only those mining claims for which a patent has not been granted (*i.e.*, "unpatented").

[2] In this memorandum, the phrase "reasonably incident mining uses" includes exploration, mining, or processing operations and uses reasonably incident thereto. *See* 30 U.S.C. § 612(a); 43 C.F.R. § 3809.5 (definitions of "operations" and "unnecessary or undue degradation").

thus advised BLM that it was required to verify the existence of such "rights" through a mining claim validity determination before it could authorize reasonably incident mining uses under Subpart 3809 in some instances—in particular "ancillary operations"[3] that the 2001 Opinion asserted could render a mining claim invalid—even on open federal lands. *Id.* at 2, 15. In the absence of a valid mining claim, the 2001 Opinion advised that the agency's decision to allow proposed reasonably incident mining uses could not be "a matter of right under the Mining Law," but rather "a matter of discretion" and regulated only under the multiple-use provisions of FLPMA. *Id.* at 15-16.

It has been nearly 15 years since the 2005 Opinion formally[4] rescinded the 2001 Opinion's conclusion that certain proposed reasonably incident mining uses of open lands could trigger a requirement to verify mining claim validity before BLM could approve a plan of operations under Subpart 3809. Since then, consistent with the 2005 Opinion and the plain text of its regulations, BLM has looked only to land status (*i.e.*, whether the lands are open to or withdrawn from the operation of the Mining Law) to ascertain whether a validity determination is required before authorizing reasonably incident mining uses under Subpart 3809. *See* 43 C.F.R. § 3809.100 (requiring a validity determination on lands withdrawn from the operation of the Mining Law). I have reviewed the 2005 Opinion—as well as the 2003 Opinion, *see supra* note 4, which presented a similar legal framework—and hereby reaffirm both.

Additionally, my review of these opinions has persuaded me that further explanation of the legal principles supporting the 2005 Opinion's conclusion would benefit BLM and the Department as a whole. This Opinion therefore supplements the 2005 Opinion, beginning with a review of the text and purpose of the Mining Law. It then examines the Department's administration of reasonably incident mining uses on open lands, and its consistent reliance on the mineral disposal authority and the statutory right of free access under 30 U.S.C. § 22 as the basis for considering such uses as authorized by the mining laws and not as trespasses.

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[3] The phrase "ancillary operations" in the 2001 and 2005 opinions was a catch-all term for "operations intended to support mineral extraction from *other* mining claims or *other* lands, and not looking to extract minerals from these particular claims." 2001 Opinion, at 1 (emphasis in original); *see* 2005 Opinion, at 1 (defining "ancillary" surface uses as those that are "related to or accompany the mining activities or . . . are viewed as supplementary or as an auxiliary activity relative to the removal of the mineral from the ground"). BLM's surface management regulations, however, govern all mining use, whether it qualifies as "mineral extraction" or as "supplemental" or "auxiliary" processing, such as placement of tailings or waste rock facilities. *See* 43 C.F.R. § 3809.5 (defining "operations" as "*all* functions, work, facilities, and activities . . ."). Moreover, the history and text of the Mining Law do not support the notion that reasonably incident mining uses should be the basis for questioning the validity of mining claims, or for deeming certain types of mining operations not "authorized" by the Mining Law. Only *non-mining* uses should. *See, e.g.*, *United States v. Bagwell*, 961 F.2d 1450 (9th Cir. 1992); *Teller v. United States*, 113 F. 273 (8th Cir. 1901).

[4] While a formal rescission did not occur until 2005, the 2001 Opinion was largely superseded in 2003. *See* M-37011, at 1 (noting that *Mill Site Location and Patenting under the 1872 Mining Law*, M-37010 (Oct. 7, 2003) (2003 Opinion) had displaced many key legal assumptions on which the 2001 Opinion relied).

This Opinion then supplements the 2005 Opinion's conclusion that mining claim validity determinations are not required before allowing reasonably incident mining uses on open lands by providing further analysis showing: (1) that a mining claim is not a condition precedent to conducting or obtaining authorization to conduct reasonably incident mining uses on open lands; (2) that the need to verify rights correlates to the rights being asserted; and (3) that BLM's regulations at 43 C.F.R. subparts 3715, 3802, and 3809 are the appropriate regulatory authorities for such uses. Finally, this Opinion reviews existing Department case law, regulation, and policy for consistency with the legal principles presented herein. This further analysis of the legal principles underlying the Department's regulation of reasonably incident mining uses should lead to greater consistency in the application of BLM's regulations.

II. Text and Purpose of the Mining Law

A. Statutory Language

The Mining Law of 1872, as enacted, begins:

> That all valuable mineral deposits in lands belonging to the United States, both surveyed and unsurveyed, are hereby declared to be free and open to exploration and purchase, and the lands in which they are found to occupation and purchase, by citizens of the United States and those who have declared their intention to become such, under regulations prescribed by law, and according to the local customs or rules of miners, in the several mining-districts, so far as the same are applicable and not inconsistent with the laws of the United States.

Mining Law of 1872 § 1, 17 Stat. 91 (codified at 30 U.S.C. § 22). With this single statement, the Mining Law changes the status of the lands to which it applies by bestowing on citizens a right to enter the lands to explore for and develop minerals.

This first section of the Mining Law does not limit or condition acceptance of the statute's "free and open" invitation to enter federal lands and engage in reasonably incident mining uses on obtaining prior federal approval or verification of miners' qualifications. *See* 30 U.S.C. § 22. The statute does acknowledge that "local customs or rules of miners, in the several mining-districts" might have their own requirements governing how reasonably incident mining uses might occur. *Id.* However, the text of the statute authorizes "citizens and those who have declared their intention to become such" to remove freely federal minerals[5] and engage in "occupation" for purposes reasonably incident to that removal on any "open" lands. *Id.* This self-executing and unqualified authorization is properly characterized as "statutory authority" or a "statutory right." *See Davis v. Nelson*, 329 F.2d 840, 846 (9th Cir. 1964); *United States v. Good*, 257 F. Supp. 2d 1306, 1308 (D. Colo. 2003) (stating that the "statutory right to mine on public lands is long-standing" (quoting 30 U.S.C. § 22)); *see also United States v. Locke*, 471 U.S. 84, 86 (1985)

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[5] Congress has removed certain minerals from disposal under the Mining Law. *See, e.g.*, Mineral Leasing Act of 1920, 30 U.S.C. § 181 (removing coal, oil, gas, and other minerals); Surface Resources Act, 30 U.S.C. § 611 (removing "common varieties" of sand, stone, gravel, pumice, and other minerals).

(stating that the Mining Law "still in effect today, allow[s] United States citizens to go onto unappropriated, unreserved public land to prospect for and develop certain minerals"); *Duguid v. Best*, 291 F.2d 235, 238 (9th Cir. 1961), *cert. denied*, 372 U.S. 906 (1963) (describing a prospector's "statutory right" to enter federal lands in search of minerals).

B. Purpose of the Mining Law

The stated purpose of the Mining Law was "*to promote* the development of the mining resources of the United States," Cong. Globe, 42d Cong., 2d Sess. 395 (1872) (emphasis added), which was apt, given that development of federal minerals was already well underway by the time of its enactment.

It took nearly 100 years after Independence for Congress to exercise its power under the Property Clause to create a general disposal system for federal minerals.[6] *See* Lode Law of 1866, ch. 262, § 4, 14 Stat. 251, 252; *see also* Placer Act of 1870, ch. 235, 16 Stat. 217. In the wake of the California gold rush and faced with widespread mineral trespass, Congress initially considered a system of prior authorization wherein miners would be required to obtain permits from the government to remove federal minerals, with a cap on the number of permits each miner was allowed at any given time. *See* Cong. Globe App., 31st Cong., 1st Sess. App'x 1362, 1370 (1850) (discussing proposed bill providing for a 30-foot square placer permit or a one-acre lode permit). But a system of prior authorization would have resolved only a small fraction of the ongoing—and what would otherwise be future—unauthorized removal of federal mineral deposits, let alone occupancy for reasonably incident mining uses. Moreover, a permitting scheme would have been practically unenforceable given the geographic extent, scope, and duration of the mineral trespass. Congress thus pragmatically chose to embrace and facilitate a system of self-initiated free access as the best way to accomplish its purpose. *See* 14 Stat. at 251-53; *United States v. Cal. Midway Oil Co.*, 259 F. 343, 351-52 (S.D. Cal. 1919), *aff'd*, 279 F. 516 (9th Cir. 1922), *aff'd mem.*, 263 U.S. 682 (1923) (recognizing that "the policy of the government seems to be to encourage the development of its mineral resources and to offer every facility for that purpose"); *see also* Cong. Globe, 39th Cong., 1st Sess. 3227 (1866) (noting the government's "tacit consent and approval").

The first phrase of the Mining Law is almost identical to the opening phrase of the Lode Law. 14 Stat. at 251 ("That the mineral lands of the public domain, both surveyed and unsurveyed, are hereby declared to be free and open to exploration and occupation by all citizens of the United States . . . ."). Congress did use slightly different terminology in the Mining Law—"valuable mineral deposits," instead of "mineral lands," as it did in the Lode Law. Writing in 1914, Professor Lindley examined the case law involving lands and minerals, and all the different permutations of statutory language used in the various public land laws, including the mining laws, and concluded that the terms "mineral lands," "valuable mineral deposits," and "mines" "are, generally speaking, legal equivalents, and may be, and frequently are, used interchangeably." 2 *Lindley on Mines* § 86, at 134-35 (3d ed. 1914) (citing *Brady's Mortgagee v. Harris*, 29 Pub. Lands Dec. 426 (1899)). The references to "valuable mineral deposits" and "lands in which they are found" together thus operate to apply the Mining Law's disposal authority to mineral lands in

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[6] There were a handful of earlier statutes reserving mineral lands in the eastern states or authorizing the sale or lease of such lands. However, there was no general authority for mineral disposal prior to 1866, and no authority of any kind until then for lands in the western states.

the public domain,[7] as opposed to agricultural lands, which were subject to disposal under other authorities. *See Davis v. Wiebbold*, 139 U.S. 507, 522 (1891) (discussing meaning of "mineral land").

Broad though it was, the authorization to enter federal lands and engage in reasonably incident mining uses found in the first section of the Mining Law did little more than ratify the status quo. While miners surely welcomed the Mining Law's legitimization of what previously had been mineral trespass, the statutory authority in that first section was, on its own, faint incentive to mineral development over and above what the miners were accomplishing without federal mineral disposal authority. *See Erhardt v. Boaro*, 113 U.S. 527, 535 (1885) (discussing the "complete protection" afforded as among miners with respect to local rules and customs).

The real inducement for exploration and development came in subsequent sections of the Mining Law, where Congress offered something that the miners did not yet enjoy and could only be obtained through federal legislation: security of tenure in the form of a property right as against the United States. *See* S. Rep. No. 39-105 at 1 (1866) (report of the Senate Committee on Mines and Mining stating, while considering what ultimately became the Lode Law of 1866, that its purpose was "to provide the most generous conditions looking toward further explorations and development"). Under these subsequent sections, *see* 30 U.S.C. §§ 23, 26, 35, 36, 38, any "mining claims"[8] or "mining locations" that the miners might have staked or "located" according to local customs, rules, and regulations in order to establish *pedis possessio*[9] as against each other would become cognizable property rights as against the United States once the miner made a discovery of a valuable mineral deposit and continued to comply with applicable maintenance requirements. *See Wilbur v. United States ex rel. Krushnic*, 280 U.S. 306, 316 (1930) (mining

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[7] The Mining Law also applies to certain lands that were not part of the public domain when the statute was enacted, as well as lands that were classified as "reserved." In particular, the Organic Administration Act of 1897 reapplied the Mining Law to National Forest System lands that Congress had reserved from the public domain pursuant to the Creative Act of 1891. 16 U.S.C. § 482; *see Wilderness Soc'y. v. Dombeck*, 168 F.3d 367, 374 (9th Cir. 1999); *Pathfinder Mines Corp. v. Hodel*, 811 F.2d 1288, 1291 (9th Cir. 1987). Other than forest reserves, lands reserved from the public domain are generally not subject to the operation of the Mining Law. *See Oklahoma v. Texas*, 258 U.S. 574, 600 (1922) (noting that the Mining Law does not apply "to the grounds about the Capitol in Washington or to the lands in the National Cemetery at Arlington, no matter what their mineral value; and yet both belong to the United States. And so of the lands in the Yosemite National Park, the Yellowstone National Park, and the military reservations throughout the Western States.").

[8] The Mining Law also allows miners to claim and patent nonmineral lands, which become compensable property rights when properly used and occupied for mining purposes. 30 U.S.C. § 42 (authorizing location and patent of "mill sites"). There is a fourth type of claim, known as a tunnel site, which is a subsurface right-of-way that, when properly used and occupied, shares the same property right characteristics as mining claims and sites, but cannot be patented. *Id.* § 27.

[9] *Pedis possessio* is the legal basis on which miners defend their investments of time, money, and effort against "rival claimants" or "claim jumpers." *See Nelson*, 329 F.2d at 845 (discussing *pedis possessio*). Miners used *pedis possessio* to enforce their possessory rights as against each other before statutory mineral disposal authority was enacted and continue to do so today.

claims are "property within the fullest sense of that term; and may be sold, transferred, mortgaged, and inherited"). And not only would mining claims themselves be recognized as property, Congress even provided to the mining claimants the ability to obtain fee title or "patent" to the claimed lands. 30 U.S.C. § 29.

These opportunities for qualified persons to establish property interests as against the government in the form of both mining claims and patents is unquestionably the statute's most compelling "inducement" to exercise the statutory right provided for in 30 U.S.C. § 22.[10] *See Cole v. Ralph*, 252 U.S. 286, 294 (1920); *United States v. Iron Silver Mining Co.*, 128 U.S. 673, 676 (1888) ("The statutes providing for the disposition of the mineral lands of the United States are framed in a most liberal spirit, and those lands are open to the acquisition of every citizen upon conditions which can be readily complied with."). But the text and structure of the statute make clear that it is the statutory right in § 22 itself—which does not mention or even reference mining claims or the establishment of any property rights—that is the foundation of the Mining Law's self-executing disposal framework and the essential component to accomplish Congress's purpose. *See Andrus v. Shell Oil Co.*, 446 U.S. 657, 658 (1980) (stating that "30 U.S.C. § 22 *et seq.*, provides that citizens may enter and explore the public domain, and search for minerals"); *United States v. Coleman*, 390 U.S. 599, 600 n.1 (1968) (noting that the Mining Law is the "cornerstone of federal legislation dealing with mineral lands" under which "citizens may enter and explore the public domain").

III. The Department's Administration of the Mining Law

A. Mining Law Enactment to 1981[11]

The Department's administration of reasonably incident mining uses for the first century following enactment of the Mining Law and its predecessor statutes was remarkable in that it was not qualitatively different from before Congress enacted statutory mineral disposal authority. Miners operating on open lands initiated and conducted nearly all reasonably incident mining uses

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[10] The incentive of property rights is why the scenario of a miner intentionally relying only on the statutory authority in § 22 for reasonably incident mining uses on federal lands is a practical improbability. *See* 73 Fed. Reg. 73,789, 73,790 (Dec. 4, 2008) (stating BLM's conclusion, after soliciting public comment as to whether miners intentionally use unclaimed lands for operations that go beyond exploration, that "no mining operations amounting to more than initial exploration activities occur on unclaimed Federal lands under the Mining Law"). But as a legal matter, the statutory authority is all a miner would need to conduct reasonably incident mining uses on open federal lands from cradle-to-grave, in compliance with applicable regulations.

[11] The first Departmental regulations governing reasonably incident mining uses under the Mining Law were promulgated by the National Park Service in 1977 to implement the Mining in the Parks Act. *See* 36 C.F.R. Part 9, Subpart A; 42 Fed. Reg. 4835 (Jan. 26, 1977). Because all National Park System lands are withdrawn from the operation of the Mining Law, the Park Service's regulations understandably allow reasonably incident mining uses only on valid mining claims or other valid existing rights on National Park System lands. *See* 36 C.F.R. § 9.1. As this Opinion addresses only mining operations on lands open to the operation of the Mining Law, its conclusions will not affect the Department's management of National Park System lands or application of the Park Service's mining regulations.

during this phase without specific authorization from or even notice to the United States—just as before enactment of the Mining Law.[12] *See, e.g.*, *United States v. Friedland*, 152 F. Supp. 2d 1235, 1244 (D. Colo. 2001) (describing government involvement in mining operations before federal regulations).

Despite the lack of any Departmental permit, prior approval, or verification of property rights, miners entering federal lands and conducting reasonably incident mining uses during this period were universally acknowledged to not be trespassers; rather their use was recognized as authorized by the plain language of § 22. *See Union Oil Co. v. Smith*, 249 U.S. 337, 346 (1919) (noting that persons proceeding under the Mining Law "are not treated as mere trespassers"). Indeed, the Department even provided financial incentives for some reasonably incident mining uses, knowing that it had not issued any specific permit or approval for such uses.[13]

Although the Department did not issue permits to miners or otherwise regulate reasonably incident mining uses on federal lands, the Department was actively engaged in administering and adjudicating the Mining Law's mineral disposal framework. Many, if not most, of the foundational cases in administrative and judicial Mining Law jurisprudence are related to the Department's exercise of its adjudicative function. *See Best v. Humboldt Placer Mining Co.*, 371 U.S. 334 (1963); *Cameron v. United States*, 252 U.S. 450 (1920). In those cases, the Department determined the nature and extent of possessory rights, surface use rights, and property rights under the Mining Law and subsequent amendments. The courts have long recognized the Department as

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[12] During this time, a handful of statutes and the Department's implementing regulations did impose operating standards or procedural requirements for engaging in reasonably incident mining uses on open lands. For example, miners on revested Oregon and California Railroad and Reconveyed Coos Bay Wagon Road Grant Lands (O&C lands) were required to obtain permission from the Department to cut timber, including for mining purposes. *See* 43 C.F.R. § 185.37d (1954). Additionally, the Mining Claims Rights Restoration Act of 1955 provided a discretionary procedure for a "public hearing," one outcome of which was the Secretary giving "permission" before reasonably incident placer mining uses occurred on powersite lands. 30 U.S.C. § 621(a). Notably, none of these limited prior authorizations required proof of a valid mining claim. *See id.* Moreover, miners could still begin reasonably incident mining uses without any federal permission where the statutory requirements were not triggered—*e.g.*, if no timber were needed on O&C lands, or if the Department did not exercise its discretion to hold a public hearing after a placer claim was located on former powersite lands, or when the a lode mining claim, mill site, or tunnel site had been located; or when no mining claim was located on such lands.

[13] *See* David. G. Frank, *Historical Files from Federal Government Mineral Exploration-Assistance Programs, 1950-1974: U.S. Geological Survey Data Series 1004* (2016), https://dx.doi.org/10.3133/ds1004. The Department's loan programs in the mid-20th century provided federal funding for exploration of known mineral prospects up to "discovery." Although the programs were established under the auspices of the Defense Production Act of 1950 § 302, 50 U.S.C. § 4532, that act did not contain independent mineral disposal authority. Without the authority provided by the Mining Law that allowed mining companies to explore for and remove minerals, the mining companies who were removing minerals from federal lands under those programs would have been trespassers, with such trespass financed by the federal government.

a "special tribunal" in which the Secretary has primary jurisdiction to adjudicate such matters. *See Cameron*, 252 U.S. at 460; *see also* 43 U.S.C. § 2.

The Department exercised its adjudicative function by resolving questions of fact related to mining claim validity and the extent of compensable property rights, such as when the government sought to condemn lands for other purposes. *See Best*, 371 U.S. at 334-35. Departmental guidance documents called "circulars" set forth the procedures for how these adjudicative procedures would be carried out, with specific instructions governing the proofs required to establish and verify compliance with applicable law when a mining claimant sought to obtain a mineral patent under 30 U.S.C. § 29, or when an adverse claimant asserted a conflict with its own possessory title. *See, e.g.*, 54 Interior Dec. 134 (1932) (Circular No. 1278 entitled, "Information in Regard to Mining Claims on the Public Domain"). The Department also exercised its adjudicative function if a miner alleged a taking of property rights associated with a mining claim. *Skaw v. United States*, 13 Cl. Ct. 7 (1987).

Additionally, while no Departmental rule restricted reasonably incident mining uses on open lands to mining claims, the converse rule—that mining claims could only be used for reasonably incident mining uses—was true for all federal lands. *See United States v. Etcheverry*, 230 F.2d 193, 195 (10th Cir. 1956) ("[T]he exclusive possession of the surface of the land to which the locator is entitled is limited to use for mining purposes."); *see also United States v. Rizzinelli*, 182 F. 675, 684 (N.D. Idaho 1910) (applying this rule in the national forests and noting that "the right of a locator of a mining claim to the 'enjoyment' of the surface thereof is limited to uses incident to mining operations"). Accordingly, the Department had procedures during this time for investigating mining claim validity as a way to curtail the practice of misusing the sections of the statute related to mining claims and patents to obtain lands for purposes unrelated to the Mining Law. *See, e.g.*, *H.H. Yard*, 38 Pub. Lands Dec. 59, 67 (1909) (disallowing use of the Mining Law to assert possessory rights over federal lands for "telephone lines, wagon roads, trails, ditches, dams, and reservoirs"). The Department's use of its adjudicative responsibilities thus led to enactment of the Surface Resources Act. *See* S. Rep. 84-554, at 4 (1955) (discussing Congress's goal of ensuring that the Mining Law would not be used as a sham to obtain title to lands that were more valuable to the patentee or claimant for values other than the development of minerals subject to disposal under the Mining Law).

But where only reasonably incident mining uses of open lands were involved, the Department's adjudicative functions were not required under the plain language and purpose described above. Consequently, during this period, the Department's only concern if it became aware of the reasonably incident mining uses would have been to verify that the lands were "free and open" to the operation of the Mining Law. If the lands were open, the Department considered the reasonably incident mining uses "authorized" as a matter of right—*i.e.*, the self-executing *statutory* right in § 22—and nothing in the language of the Mining Law gave the Department discretion to prevent or condition the exercise of that statutory right in the course of the miner's reasonably incident mining uses.

B. 1981 to Present

In 1976, Congress enacted FLPMA, which specifically amended the Mining Law to require the Secretary to, "by regulation or otherwise, take any action to prevent unnecessary or

undue degradation of the lands."[14] 43 U.S.C. § 1732(b). This mandate to prevent "unnecessary or undue degradation," found in section 302(b) of FLPMA, gave BLM the authority to impose limits on how existing and future reasonably incident mining uses under the Mining Law could be conducted. BLM accordingly promulgated three new subparts of 43 C.F.R. Subchapter C–Minerals Management: 43 C.F.R. subparts 3715, 3802, and 3809 (collectively, the Subchapter C Mining Law regulations). Each set of regulations provided specific requirements and conditions to ensure that reasonably incident mining uses authorized by § 22 would meet FLPMA's "unnecessary or undue degradation" standard.

BLM's Subpart 3809 regulations, which became effective in 1981, implemented FLPMA's mandate to prevent "unnecessary or undue degradation" by imposing for the first time operational standards on any reasonably incident mining uses that caused more than negligible disturbance of the public lands. *Surface Management of Public Lands Under U.S. Mining Laws*, 45 Fed. Reg. 78,902 (Nov. 26, 1980); *see* 43 C.F.R. § 3809.0-1 (1982) ("The purpose of this subpart is to establish procedures to prevent unnecessary or undue degradation of Federal lands which may result from operations authorized by the mining laws."). These operational standards included rigorous environmental protection and reclamation requirements. 43 C.F.R. §§ 3809.1-1 (reclamation), 3809.2-2 (environmental protection) (1982). The Department substantially revised Subpart 3809 in 2001 to strengthen and modernize their environmental protections. *Mining Claims Under the General Mining Laws; Surface Management*, 66 Fed. Reg. 54,834 (Oct. 30, 2001); *see* 43 C.F.R. § 3809.420 (performance standards applicable to all notices and mine plans).

The regulations at 43 C.F.R. subpart 3802 (Subpart 3802), also effective in 1981, implement the "unnecessary or undue degradation" standard with respect to reasonably incident mining uses on any lands that BLM designates as "wilderness study areas" (WSAs) pursuant to section 603 of FLPMA. *See Exploration and Mining, Wilderness Review Program*, 45 Fed. Reg. 13,968 (Mar. 3, 1980); *see also* 43 U.S.C. § 1782(c); 43 C.F.R. § 3802.0-1 (stating that the purpose of the regulations is "to prevent impairment of the suitability of lands under wilderness review for inclusion in the wilderness system and to prevent unnecessary or undue degradations by activities authorized" by the Mining Law). Unlike lands designated by Congress for inclusion within the National Wilderness System under the Wilderness Act of 1964, which are withdrawn from the operation of the Mining Law, subject to valid existing rights, 16 U.S.C. § 1133(d)(3), and thus, like National Park System lands, not affected by the conclusions in this Opinion, *see supra* note 11, lands designated by BLM as WSAs under section 603 of FLPMA generally remain open to the Mining Law. 43 U.S.C. § 1782(c) ("Unless previously withdrawn from appropriation under the mining laws, such lands shall continue to be subject to such appropriation during the period of review unless withdrawn by the Secretary under the procedures of section 1714 of this title for reasons other than preservation of their wilderness character."). In leaving open BLM-designated WSA lands, Congress clearly contemplated that reasonably incident mining uses would

[14] Among the other ways FLPMA specifically amended the Mining Law was the imposition of federal recording requirements for all mining claims. *See* 43 U.S.C. § 1744. The enactment of FLPMA thus also substantially changed the Department's adjudicative function in administering the Mining Law. *See* 43 C.F.R. Part 3830.

continue,[15] as evidenced by the fact that it placed an additional condition on such uses that is not applicable to other public lands: the "nonimpairment" standard. Thus, while the Subpart 3802 regulations are similar in structure and operational standards to those in Subpart 3809, because Subpart 3802 implements the heightened "nonimpairment" standard with respect to any new or expanded reasonably incident mining uses in WSAs, the regulations in Subpart 3802 are in many ways more environmentally protective than Subpart 3809. *See* 43 C.F.R. §§ 3802.0-1 (stating that, in addition to preventing impairment and unnecessary or undue degradation, the regulations would "provide for environmental protection of the public lands and resources"); 3802.3-2 ("Requirements for environmental protection.").

Additionally, in 1996, BLM promulgated regulations to implement the Surface Resources Act's limitations on reasonably incident mining uses and occupancies. *Use and Occupancy Under the Mining Laws*, 61 Fed. Reg. 37,116 (July 16, 1996). The Subpart 3715 regulations specifically define "unnecessary or undue degradation" as "those activities that are not reasonably incident and are not authorized under any other applicable law or regulation." 43 C.F.R. § 3715.0-5 (cross-referencing definitions of "unnecessary or undue degradation" in Subparts 3802 and 3809).

Whereas the advent of federal mineral disposal authority had made little noticeable difference with respect to how miners conducted reasonably incident mining uses on federal lands, the enactment of FLPMA and promulgation of the Subchapter C Mining Law regulations described above effected a substantial qualitative change. The "unnecessary or undue degradation" and "nonimpairment" standards, as applicable, gave the Department strong regulatory tools to temper the environmental effects from miners' reasonably incident mining uses as they availed themselves of the statutory right of access in § 22. For the first time, most miners were required to provide at least notice to the Department before initiating reasonably incident mining uses, *see* 43 C.F.R. § 3715.3; *see also id.* § 3809.1-3 (1982); in some cases, they were required to obtain formal approval of a mining plan of operations. *See id.* § 3802.1; *see also id.* § 3809.1-4 (1982). And while none of the Subchapter C Mining Law regulations gave BLM discretion to withhold or deny surface use authorization to miners that otherwise met the regulatory requirements, the regulations made clear that compliance with provisions to prevent unnecessary or undue degradation was the core condition of engaging in reasonably incident mining uses on the public lands, and that failure to comply could result in curtailment of the miners' use. *See id.* §§ 3715.7-2 (stating that noncompliance could result in the United States seeking an injunction), 3802.4-1(a) (stating that operators failing to comply with the regulations could be "enjoined by an appropriate court order from continuing such operations"); *see also id.* § 3809.3-2 (1982) (similar).

Importantly, several aspects of the Department's administration of reasonably incident mining uses did remain the same as before BLM promulgated the Subchapter C Mining Law regulations, however. For example, the Department continued to use only the "free and open"

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[15] Not only was continued mining in WSAs specifically contemplated by Congress, section 603(c) of FLPMA also expressly allowed for "the continuation of existing mining and grazing uses and mineral leasing in the manner and degree in which the same was being conducted" on the date of FLPMA's enactment. 43 U.S.C. § 1781(c). Existing mining operations would not be subject to the heightened "nonimpairment" standard, although operators would, of course, be required to prevent "unnecessary or undue degradation." *See* 43 C.F.R. § 3802.1-3.

criteria to determine which lands could be used for reasonably incident mining uses under the regulations, as opposed to looking to FLPMA's discretionary land use planning process to identify the lands where mining operations would occur, as is the case for the mineral leasing and mineral materials disposal programs. *See* 43 U.S.C. § 1712(e)(3). In addition, just as before BLM promulgated the Subchapter C Mining Law regulations, qualified persons entering and conducting reasonably incident mining uses on open lands would not be liable for trespass—even if they failed to obtain any required specific permission from BLM—although they could be subject to an enforcement action in the event of noncompliance with the applicable regulations. *Compare* 43 C.F.R. § 3715.7-1 (describing enforcement actions), and *id.* § 3809.601 (same), *with id.* § 2920.1-2(a) (stating that use, occupancy, or development without authorization "shall be considered a trespass" and setting forth penalties), and *id.* § 9239.0-7 (making "extraction, severance, injury, or removal of . . . mineral materials from public lands" without compliance with law and Departmental regulations an "act of trespass").

Also, and of particular relevance here, BLM's original Subpart 3809 regulations continued to allow miners to conduct some reasonably incident mining uses without prior or formal approval, including extractive mining, if the reasonably incident mining "operations, including access across Federal lands to the project area, cause a cumulative surface disturbance of 5 acres or less during any calendar year . . . ." 43 C.F.R. § 3809.1-3(a) (1982). So long as the operator provided notice to BLM containing all of the information required in the regulations, complied with the operational standards, and limited the disturbance to 5 acres or less, the operator could conduct "all functions, work, facilities, and activities in connection with prospecting, discovery and assessment work, development, extraction, and processing of mineral deposits locatable under the mining laws and all other uses reasonably incident thereto" without receiving any permit or prior approval from BLM, just as before FLPMA and the Subpart 3809 regulations. *Id.* § 3809.0-5(f) (1982) (definition of "operations"); *see id.* § 3809.1-3(b) (1982) ("Approval of a notice, by the authorized officer, is not required."); *Sierra Club v. Penfold*, 857 F.2d 1307, 1309, 1314 (9th Cir. 1988) ("BLM cannot require approval before an operation can commence developing the mine. 43 C.F.R. § 3809.1-3(b) [1982]."). BLM's decision to include in the current regulation a requirement to obtain approval for all extractive mining was based on environmental concerns, rather than because it believed that the previous regulation was infirm or that such operations were not authorized by the statutory right in § 22. *See Mining Claims Under the General Mining Laws; Surface Management*, 65 Fed. Reg. 69,998, 70,002 (Nov. 21 2000) ("Some small mining operations disturbing less than 5 acres have created significant environmental impacts or compliance problems."); *see also* 43 C.F.R. 3809.10 (BLM's classification system for "operations" that requires approval only for "plan-level" operations).[16]

That FLPMA did not change every aspect of the Department's administration of reasonably incident mining uses is consistent with the Department's understanding of how the new operational limitations arising out of FLPMA's "unnecessary or undue degradation" mandate related to the existing statutory disposal authority under § 22, as stated in BLM's policy

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[16] Additionally, the Subchapter C Mining Law regulations have never required miners to notify BLM if their reasonably incident mining uses would ordinarily result in minimal disturbance of federal lands. *See* 43 C.F.R. §§ 3802.1-2 (when authorization not required), 3809.5 (definition of "casual use"); *see also id.* §§ 3809.1-2 ("No notification to or approval by the authorized officer is required for casual use operations."); 3809.0-5(b) (1982) (definition of "casual use").

statements in the Subchapter C Mining Law regulations. For example, the original Subpart 3809 regulations stated:

> Under the mining laws a person has a statutory right, consistent with Departmental regulations, to go upon the open (unappropriated and unreserved) Federal lands for the purpose of mineral prospecting, exploration, development, extraction and other uses reasonably incident thereto. This statutory right carries with it the responsibility to assure that operations include adequate and responsible measures to prevent unnecessary or undue degradation of Federal lands and to provide for reasonable reclamation.

43 C.F.R. § 3809.0-6 (1982); *see also id.* § 3809.1(a) (stating that the purpose of the current regulations is to "prevent unnecessary or undue degradation of public lands by operations authorized by the mining laws"). The Subpart 3802 and 3715 regulations contain similar rationale. *See* 43 C.F.R. §§ 3715.0-1(a) (stating that the purpose of the regulations is to "prevent abuse of the public lands while recognizing valid rights and uses under the Mining Law of 1872"), 3802.0-2(a) (stating that the objective of the regulations is to allow "location, prospecting, and mining operations" in WSA "but only in a manner that will not impair the suitability for inclusion in the wilderness system unless otherwise permitted by law"), 3802.0-6 (similar to the opening sentence of § 3809.0-6, above).

The balancing evident in each of these statements, as well as the fact that some such uses continued to be allowed without requiring specific or prior approval—or, in the absence of such approval, without imposing trespass liability—shows that even after FLPMA, the Department continued to recognize the statutory authority in § 22 as an independent, self-executing authorization distinct from FLPMA's operational obligations for reasonably incident mining uses. Thus, while FLPMA certainly changed the Department's administration of the Mining Law by providing standards for *how* reasonably incident mining uses could occur, FLPMA did not change the question of *whether* reasonably incident mining uses fell within the scope of § 22's statutory authority.

IV. The Subchapter C Mining Law Regulations Apply to All Reasonably Incident Mining Uses on Open Lands

The 2005 Opinion correctly concluded that the Secretary has no obligation to determine mining claim validity before approving plans of operations on open lands under the Subpart 3809 regulations. *See* 2005 Opinion, at 2-4. This conclusion was based on the 2005 Opinion's review of the Mining Law, Surface Resources Act, and FLPMA, as well as the Subpart 3809 regulations themselves, which impose such a requirement only where lands are withdrawn. *Id.* at 3-5 (citing 43 C.F.R. § 3809.100).

Although the 2005 Opinion was specific to plans of operations under Subpart 3809, BLM's practice has been to apply the legal principles described in the 2005 Opinion in administering all of the Subchapter C Mining Law regulations on open lands. In other words, BLM similarly does not routinely inquire into mining claim validity when authorizing or allowing reasonably incident mining uses under the Subpart 3802 regulations governing wilderness study areas, the Subpart 3715 regulations governing use and occupancy, or the provisions of Subpart 3809 governing exploration notices. I advise BLM that this practice is legally sound because

administering all of the Subchapter C Mining Law regulations under the legal framework in the 2005 Opinion and in the analysis below gives effect to the text and the purpose of the statute and to the Department's historic administration of reasonably incident mining uses on open lands as authorized by the independent statutory right in § 22.

A. A Valid Mining Claim is Not a Condition Precedent to Reasonably Incident Mining Uses on Open Lands

One of the central legal flaws of the 2001 Opinion was its premise that establishment of a valid mining claim was a condition precedent to the Mining Law's mineral disposal authority. *See* 2001 Opinion, at 13. In the 2001 Opinion's view, reasonably incident mining uses do not fall under the authority of the Mining Law at all—not even the "free and open" provisions of § 22—unless or until a valid mining claim has been established. *See id.* at 7 (stating that without a valid mining claim, a mining claimant "has no rights under the Mining Law to use the federal land encompassed by that claim for any purpose" (citing *Cameron*, 252 U.S. at 460)). Admittedly, at first glance, the 2001 Opinion's premise is not entirely without some general textual appeal in the Mining Law. After all, the Mining Law appears to require discovery before a mining claim can be located. *See* 30 U.S.C. § 23.[17]

Yet the 2005 Opinion's interpretation better comports with the Mining Law's text and statutory purpose. As discussed above, the plain language of § 22 is self-executing, and not dependent on any prior action by the United States. *See supra* section II.A. The plain language of § 22 also contains no mention of or reference to mining claims—let alone a specific requirement to have a valid mining claim—as a condition precedent to act on its statutory authorization. *See* 30 U.S.C. § 22. This is in contrast to the patenting provisions of the Mining Law, where Congress expressly made acceptance of the statute's offer of fee title dependent on several conditions precedent. Unlike § 22, the patenting section specifically requires a "person, association or corporation" seeking a patent to have properly "claimed and located a piece of land" under the Mining Law, and to "have[] complied with the terms of" the sections setting forth the requirements to validly locate mining claims or mill sites. *Id.* § 29 (citing §§ 22-24, 26, 35, 36, 42). The patenting section of the Mining Law also requires applicants to have properly maintained their mining claims in order to obtain the benefit of that provision—a clear condition precedent. *Id.* (citing § 28).

Viewing the statutory authority in § 22 as independent of the existence of a valid mining claim is also consistent with Congress's goal of resolving the widespread trespass through blanket statutory authority for reasonably incident mining uses. Requiring miners to demonstrate a valid mining claim before they may lawfully enter open lands and engage in reasonably incident mining uses under the statutory authority in § 22 would be contrary to Congress's intent. *Creede & Cripple Creek Mining*, 196 U.S. at 351 (acknowledging that "the principal thought of [30 U.S.C.] chapter [2] is exploration and appropriation of mineral"). All stages of mineral development

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[17] While the plain language of the Mining Law requires discovery before mining claim location, the courts have long since acknowledged that pre-discovery location of mining claims does not violate the statute. *See Creede & Cripple Creek Mining & Milling Co. v. Uinta Tunnel Mining & Transp. Co.*, 196 U.S. 337, 354 (1905) ("[I]t is not a vital fact that there was a discovery of mineral before the commencement of any of the steps required to perfect a location . . . .").

involve removal of minerals and reasonably incident mining uses—even those stages that occur before "discovery" and after a mining claim has been "mined out." *Best*, 371 U.S. at 336 (noting the possibility of "worked-out claims not qualifying" as having a discovery). As a practical matter, requiring the discovery of a valuable mineral deposit before allowing any reasonably incident mining uses, including the removal of any minerals, puts the cart before the horse, since such uses and removal are necessary to make a discovery. If entering open lands to explore for and develop minerals is considered "unauthorized" unless or until miners have proven a discovery of a valuable mineral deposit, they could not, as a practical matter, ever discover a valuable mineral deposit and all mining would be effectively prohibited. Such an outcome was clearly not the intent of Congress, in no small part because such an interpretation would also leave many, if not most, miners legally in trespass.[18]

That Congress did not intend for the statutory authority under § 22 to exist only as a consequence of establishing a valid mining claim is further confirmed by the provenance of that section. The Lode Law expressly opened "all mineral lands," without regard to the mineral or type of deposit. Lode Law § 1, 14 Stat. at 251. As discussed above, the Lode Law's opening sentence ratified what had previously been mineral trespass and served as blanket authorization for disposal of all minerals. *Id.* The Lode Law, however, authorized only the location and patenting of mining claims for certain types of certain mineral deposits. *See id.* § 2, 14 Stat. at 251-52 (limiting location of mining claims to "a vein or lode of quartz, or other rock in place, bearing gold, silver, cinnabar, or copper"). Miners mining and removing minerals from deposits other than those identified in the Lode Law were nonetheless authorized to access and remove federal minerals by the "free and open" mineral disposal authority in the first sentence, even though they could not obtain title to the lands or secure tenure under federal law in the form of a mining claim or patent until several years later. Placer Act, 16 Stat. at 217 (amending the Lode Law to add §§ 12-17, which authorized the location and patenting of "all forms of deposit, excepting veins of quartz, or other rock in place"). Had the statutory authority in the first section of the Lode Law—similar to § 22 in every relevant way—depended on the existence of a mining claim, all placer mining between 1866 and 1870 would have remained in trespass.

The Surface Resources Act's specific references to mining claims, *see* 30 U.S.C. §§ 611-615, are not indicative that Congress narrowed its open invitation in § 22. Congress enacted the Surface Resources Act in 1955 to amend the Mining Law in three ways: (1) remove "common varieties" of certain minerals from disposal under the Mining Law; (2) limit surface use to that which is "reasonably incident" to prospecting, mining or processing operations; and (3) change the "exclusive right of possession" afforded to valid mining claims in § 26 to a nonexclusive right in mining claims located thereafter. *See id.* §§ 611, 612. These provisions grew largely out of the Department's experience and exercise of its adjudicative function. *See supra* section III.A. The three amendments to the Mining Law were intended to curtail use of mining claims and patents to obtain protected property rights by those intending to use the lands for purposes other than the development of minerals that were "free and open" under the statutory disposal authority in § 22.

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[18] Conditioning a miner's ability to conduct reasonably incident mining uses on the existence of a valid property right would also be contrary to Congress's intent because the required verification would have created a vast administrative burden and authorization bottleneck—the opposite of what the self-executing, blanket statutory authorization was meant to promote. *See* Cong. Globe, 42d Cong., 2d Sess. at 395.

See S. Rep. 84-554, at 5 (discussing how locators were filing mining claims "under color of existing mining law" solely to use the lands for *nonmining* purposes, including "commercial enterprises such as filling stations, curio shops, cafes, or for residence or summer camp purposes, and as private hunting and fishing preserves," resulting in "uncontrolled waste of valuable resources of the surface on lands embraced within claims which might satisfy the basic requirement of mineral discovery, but which were in fact, made for a purpose other than mining"); *see also United States v. Shumway*, 199 F.3d 1093, 1101 (9th Cir. 1999) (discussing purposes of the Surface Resources Act). Nothing in the statutory language or the legislative history of the Surface Resources Act shows an intent to amend the Mining Law in a fourth way: to make mining claim validity a condition precedent to allowing reasonably incident mining uses under the statutory authority in § 22.

The Department's regulations governing the public lands and mineral resources have also never required confirmation of a valid mining claim before allowing reasonably incident mining uses on open lands. Moreover, there does not appear to be any instance of the Department treating such uses on open lands as mineral trespass—whether the uses occurred in the earliest stages of prospecting when the claim might not yet support a valid discovery or at the final stages of reclamation at which time the discovery supporting the validity of the claim might have been exhausted. *Compare, e.g.*, 43 C.F.R. Part 3500 (describing a progressive series of mineral disposal authorizations for solid minerals other than oil shale and coal, without which an operator would be in trespass).

In sum, conflating the statutory mineral disposal authority set forth in the first section of the Mining Law with the process for initiating property rights as against the United States set forth in the subsequent sections would require reading extra words into the statutory language of § 22. Canons of construction, and indeed common sense, demand otherwise. *See* Sutherland Stat. Const. §§ 46.1, 46.5, 47.28 (7th ed. 2007) (discussing the plain meaning rule, the "whole statute" interpretation, and common meaning canon). *See generally* Antonin Scalia & Bryan A. Garner, *Reading Law: The Interpretation of Legal Texts* 56-59 (2012) (describing the "Supremacy-of-Text Principle" as: "The words of a governing text are of paramount concern, and what they convey, in their context, is what the text means.").

B. The Need to Verify Rights Correlates with the Rights Being Asserted

The 2005 Opinion properly describes when mining claim validity must be verified. As the 2005 Opinion accurately observed, the Department "simply does not know and . . . *need not know*" whether the open lands on which an operator proposes reasonably incident mining uses are covered by valid mining claims before authorizing those uses. *See* 2005 Opinion, at 4 (emphasis in original).

There is no dispute that mining claimants must demonstrate the validity of their mining claims whenever they assert a property interest as against the federal government, such as when they seek to obtain a patent or to extract minerals on lands that were withdrawn from disposition under the Mining Law, "subject to valid existing rights." *See Lara v. Sec'y of the Interior*, 820 F.2d 1535, 1537 (9th Cir. 1987) (describing a miner's attempt to prove his right to conduct operations on lands that were withdrawn, subject to valid existing rights, and noting that in such situations "[a] mining claimant has the right to possession of a claim only if he has made a mineral discovery on the claim"). The federal government need not—indeed, may not—recognize a

mining claimant's assertion of a property interest as against the government unless and until the Secretary has confirmed mining claim validity. *Cameron*, 252 U.S. at 460 (confirming the Secretary's authority to determine the validity of the claims on withdrawn lands and to recognize "certain exclusive possessory rights" as against the government in valid claims on such lands because "no right [as against the government] arises from an invalid claim of any kind"); *Freeman v. United States Dep't of the Interior*, 37 F. Supp. 3d 313, 319 (D.D.C. 2014) (stating, where a mining claimant alleged that he was owed compensation under the Fifth Amendment because his property rights in his mining claims were "taken," that without a valid mining claim, "the claimant has no right to the property against the United States or an intervenor").

Seeking authorization to conduct reasonably incident mining uses on open lands under BLM's Subchapter C Mining Law regulations, however, does not require the miner to assert property rights as against the government, nor does such an authorization constitute a grant of a property right to the operator or the mining claimant. *See, e.g.*, 65 Fed. Reg. at 70,007-08 (preamble to the Subpart 3809 regulations stating that "approvals of plans of operations on unclaimed lands are not based on property rights under the mining laws, and that approval of a plan of operations under Subpart 3809 does not create property rights where none previously existed"). In addition, authorization for reasonably incident mining uses on open lands does not even require the assertion of a *possessory* interest in the surface of the lands. Operators are required by regulation to list the serial numbers of mining claims situated where the proposed disturbance would occur, 43 C.F.R. §§ 3802.1-4(c)(5), 3809.401(b)(1), but nothing in the Mining Law or the Subpart 3809 regulations requires the operator to be the claim owner or substantiate that it has been authorized by the owner of the listed mining claims to possess or use the lands.

Rather, when miners seek to engage in reasonably incident mining uses on open lands under the Subchapter C Mining Law regulations, the only right under the Mining Law that miners assert as against the government is the statutory right in § 22.[19] Verification of that statutory right requires only a review of BLM's records to confirm that the lands remain "free and open" to the operation of the Mining Law. If the lands are open, then the right asserted by the operator—the statutory right of access under § 22—is confirmed. *See* 2005 Opinion, at 4.

C. BLM's Subchapter C Mining Law Regulations Apply Regardless of Mining Claim Validity

An issue not expressly explored in the 2005 Opinion is the legal effect that a determination of mining claim invalidity on open lands might have on BLM's authorization of reasonably incident mining uses under any of the Subchapter C Mining Law regulations. *See* 2005 Opinion, at 2-3 (concluding that a validity determination was not required before mine plan approval under

[19] As noted in the 2005 Opinion, there may be circumstances where the Department must first confirm that the particular type of mineral deposit is still "free and open" to disposition under the Mining Law (as opposed to disposition under the mineral materials or mineral leasing laws). *See* 2005 Opinion, at 3 n.2 (distinguishing "common variety" determinations from mining claim validity determinations). Such a determination regarding the character of the deposit, however, does not involve an assertion of property rights to the mineral deposit or to the lands on which the reasonably incident mining uses would occur, and thus would not require verification of property rights.

Subpart 3809). Consistent with the principles and analysis above, this section of the Opinion makes clear that, so long as lands remain "free and open" and subject to the statutory right in § 22, whether lands are covered by a valid mining claim has no effect on: (1) BLM's ability to authorize reasonably incident mining uses under BLM's Subchapter C Mining Law regulations on those lands; or (2) any active authorizations under those regulations that predate when a mining claim is determined to be void.

As discussed above, before FLPMA and the Subchapter C Mining Law regulations, the Department administered the statutory right under § 22 by allowing all reasonably incident mining uses on any open public lands without prior approval and without regard to whether the uses were occurring on valid mining claims. *See supra* section III.A. Miners needed only to satisfy two requirements for their use and occupancy to be considered authorized by the Mining Law: the lands had to be "free and open" to the operation of the Mining Law under § 22, and the miner had to be using the lands for "prospecting, mining or processing operations and uses reasonably incident thereto." 30 U.S.C. § 612(a). During this time period, upon becoming aware of uses that were not "reasonably incident" or uses that, while reasonably incident, were occurring on withdrawn lands not covered by a valid mining claim, the Department generally used its adjudicative function to disallow the use. *See Teller*, 113 F. at 273. But there do not appear to be any instances where the Department took the position that a miner lost all authority to conduct reasonably incident mining uses upon the abandonment or other voidance of its mining claims.

Despite the fact that neither the text and statutory purpose of the Mining Law, nor the Department's administration of § 22 before FLPMA's enactment, made a valid mining claim a prerequisite for reasonably incident mining uses, the notion surfaced that BLM authorization pursuant to the regulations promulgated under FLPMA might be dependent on—or at least connected to—mining claim validity. The origin of that notion appears to be *Southwest Resource Council*, 96 IBLA 105 (1987), an administrative challenge to BLM's approval of a mine plan on open lands under Subpart 3809 and, in particular, the agency's determination that the proposed reasonably incident mining uses at issue satisfied the requirement to prevent "unnecessary or undue degradation" under those regulations. In rejecting the appellant's argument that a determination of mining claim validity was necessary for BLM to ascertain whether "unnecessary or undue degradation" would occur, the decision of the Interior Board of Land Appeals (IBLA) also included dictum stating that, when reviewing a mining plan of operations, BLM was not "precluded from determining the validity of a [mining] claim and, *upon a proper determination of invalidity, denying approval of a plan of operations* therefor."[20] *Id.* at 22 (emphasis added).

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[20] The IBLA properly rejected the environmental groups' assertion that allowing mining on lands not subject to valid mining claims is "necessarily undue and unnecessary." *Sw. Res. Council*, 96 IBLA at 122-23 (relying on the regulatory definition of "unnecessary or undue degradation" in force at that time, 43 C.F.R. § 3809.0-5(k) (1982)). As the IBLA correctly pointed out, applying the "unnecessary or undue degradation" standard "presumes the validity of the use." *Id.* at 123; *see id.* at 122 (noting that "operations authorized by the mining laws run the full gambit [sic] from prospecting, discovery, and assessment work to the development, extracting, and processing of the mineral" (citing 43 C.F.R. § 3809.0-5(f) (1982) (regulatory definition of "operations"))); *see also* Surface Management Handbook H-3809-1 § 4.4.2, at 4-40 (2012) (BLM internal policy guidance stating that its analysis of the environmental effects of approving a mine plan under Subpart 3809 "does not need to address mining claim status or validity").

The portion of the IBLA's quoted language that states the principle that the Secretary is not precluded from determining mining claim validity before approving a mine plan is black letter law. *See* 2005 Opinion, at 3 n.1 (stating that "the BLM has unconstrained discretion to initiate mining claim validity examination at any time before a patent is issued" (citing *Cameron*, 252 U.S. at 460)). The IBLA's legal foundation for the italicized language was less clear, however, particularly since the Board provided no statutory, regulatory, or case law to support its faulty assumption that BLM could deny approval of a mine plan on open lands if a mining claim has been determined to be invalid.

As noted above, the Department's administration of the Mining Law and the Surface Resources Act had never conditioned the exercise of the statutory right under § 22 or reasonably incident mining uses on open lands on mining claim validity; thus the IBLA would not have been implicitly relying on previous Departmental interpretations of the Mining Law or the Surface Resources Act for its connection between mining claim validity and reasonably incident surface uses. And while FLPMA's protective mandates unquestionably changed how miners could conduct reasonably incident mining uses by imposing substantial operational protections on the exercise of the statutory right under § 22, *see* 43 U.S.C. § 1732(b) (identifying the "unnecessary or undue degradation" standard, as well as additional standards for new operations in wilderness study areas and the California Desert Conservation Area), FLPMA did not amend the "free and open" language of § 22 or otherwise change the Mining Law to add a valid mining claim as a precondition to exercising the statutory right. *See id.* Indeed, section 302(b) of FLPMA expressly provided that it was amending the Mining Law only in the four ways noted in section 302(b). *See id.* ("Except as provided in section 1744, section 1782, and subsection (f) of section 1781 of this title and in the last sentence of this paragraph, no provision of this section or any other section of this Act shall in any way amend the Mining Law of 1872 or impair the rights of any locators or claims under that Act, including, but not limited to, rights of ingress and egress."). As noted in the 2005 Opinion, requiring mining claim validity before authorizing reasonably incident mining uses was not one of these four sections of FLPMA. *See also* 2005 Opinion, at 2 ("None of the four provisions require that the Secretary determine mining claim or mill site validity before approving a plan of operations.").

The IBLA also could not reasonably have been relying on BLM's Subpart 3809 regulations, which did not include mining claim invalidity as a basis for denying a mine plan on open lands at the time. 43 C.F.R. § 3809.1-6(a) (1999) (regulation in force at the time the IBLA decision was issued). Furthermore, none of BLM's current Subchapter C Mining Law regulations contain such language today. *See* 43 C.F.R. §§ 3715.3 (describing outcome of consultation), 3802.1-5 (requirements for mine plan approval in wilderness study areas), 3809.411(d)(3) (stating the bases upon which BLM can deny a mine plan); 65 Fed. Reg. at 70,005 ("It should be noted, however, that approval of a plan of operations under this subpart constitutes BLM approval to occupy public lands in accordance with its provisions whether or not associated mining claims [or] millsites are determined invalid. Such authority is provided by section 302(b) of FLPMA."), 70,013 ("The sequence of activity set out in the text of the law itself (exploration, then discovery, followed by claim location) presupposes that activities will be carried out on unclaimed land."). Rather, BLM's regulations only state that they apply to uses of federal lands "authorized by the mining laws." *See, e.g.*, 43 C.F.R. §§ 3802.0-7(a) ("These regulations apply to mining operations conducted under the United States mining laws, as they affect the resources and environment or wilderness suitability of lands under wilderness review."), 3809.2(a) (BLM's current regulation

stating that "[t]his subpart applies to all operations authorized by the mining laws on public lands where the mineral interest is reserved to the United States").[21]

The Subchapter C Mining Law regulations do not connect mining claim validity to authorization for reasonably incident mining uses. Rather, the provisions mandate only that operators identify any mining claims on the lands for which surface use authorization is sought. *See* 43 C.F.R. §§ 3802.1-4(c)(5) (stating that plans of operations must include, "*[i]f and when applicable*, the serial number assigned to the mining claim, mill or tunnel site") (emphasis added), 3809.401(b)(1) (requiring operators to include "the BLM serial number(s) of any unpatented mining claim(s) where disturbance would occur"). Moreover, there is no corresponding regulation under which BLM could reject a request for surface use authorization if the lands did not, in fact, contain any mining claims, valid or otherwise. *See, e.g.*, 43 C.F.R. § 3809.411(d)(3) (listing reasons BLM could disapprove or withhold approval of a plan of operations); 45 Fed. Reg. at 78,903 (responding to comment that no significant activities should take place off the mining claim unless authorized by some other law by stating: "This is not technically correct. One does not need a mining claim to prospect for or even mine on unappropriated Federal lands.").

The language in *Southwest Resource Council* nevertheless became the primary source for subsequent assertions of a connection between mining claim validity and authorization of reasonably incident mining uses. In a later administrative case entitled *Great Basin Mine Watch*, the IBLA relied on *Southwest Resource Council* for its assertion that "[r]ights to mine under the general mining laws are derivative of a discovery of a valuable mineral deposit, without which denial of the plan of operations is entirely appropriate." 146 IBLA 248, 256 (1998) (citing *Sw. Res. Council*, 96 IBLA at 123). And, likely because the Board described the *Southwest Resource Council* language as the holding, rather than dictum, *see id.* (calling the *Southwest Resource Council* language the "express holding"), other IBLA decisions relied on the *Southwest Resource Council* for that proposition. *See Ctr. for Biological Diversity*, 162 IBLA 268, 278 (2004) (citing *Great Basin Mine Watch* for the proposition that BLM may reject a mine plan on open lands if the mining claims were invalid); *W. Shoshone Def. Proj.*, 160 IBLA 32, 57 (2003) (same).[22]

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[21] Additionally, nothing in the Subchapter C Mining Law regulations requires or even allows BLM to rescind an authorization of reasonably incident mining uses on lands subject to a mining claim that was known to be valid at the time of authorization if the mining claim subsequently became invalid—for example, if the mining claimant failed to comply with annual maintenance requirements and the claims were forfeited by operation of law. 30 U.S.C. § 28i. Under BLM's longstanding practice, the status quo would remain despite the lack of a valid mining claim: the miner's operations on open lands would continue to be "authorized by the mining laws" as reasonably incident mining uses on open lands. Only if the lands had been withdrawn from the operation of the Mining Law at the time of mining claim forfeiture or voidance would reasonably incident mining uses cease to be "authorized" because, in that instance, the statutory right would no longer apply to those lands. *See Sw. Res. Council*, 96 IBLA at 124 (discussing requirement to reject a plan of operations where the mining claim on withdrawn lands was void).

[22] *Western Shoshone Defense Project* additionally cited to *Pass Minerals* for the proposition that BLM may suspend review of a mine plan on open lands pending a validity examination and any resulting contest proceeding. *W. Shoshone Def. Proj.*, 160 IBLA at 57 (citing *Pass Minerals*, 151 IBLA 78, 86-87 (1999)). But *Pass Minerals* was inapposite. As an initial matter, *Pass Minerals*

The notion that mining claim validity determined whether reasonably incident mining uses would be considered "under the general mining laws" also became the cornerstone of the 2001 Opinion. 2001 Opinion, at 11 (citing to *Great Basin Mine Watch* and stating that "[t]his principle has been followed by the Interior Board of Land Appeals"). Using the reasoning that grew out of the *Southwest Resource Council* dictum, the 2001 Opinion concluded that if the lands were not subject to a valid mining claim, BLM could not authorize reasonably incident mining uses "as a matter of right under the Mining Law" but rather only as a "matter of discretion" under the multiple-use provisions of FLPMA. 2001 Opinion, 2, 14; *see id.* at 6 (citing 30 U.S.C. § 23 and stating that "the extent to which use of mining claims for ancillary operations can be authorized as a matter of right under the Mining Law turns on the Law's fundamental requirement that a mining claim must contain a 'discovery' of a valuable mineral deposit in order to create any rights against the United States").

I have no quarrel with the 2001 Opinion's account of what is necessary for a mining claim to constitute a property right enforceable as against the United States. Once there is a "discovery" of a valuable mineral deposit on a properly located mining claim, the claim is a "fully recognized possessory interest." *Locke*, 471 U.S. at 86 (citing *Best*, 371 U.S. at 335). A valid mining claim is a "unique form of property" that is "valid against the United States if there has been a discovery of mineral within the limits of the claim, if the lands are still mineral, and if other statutory requirements have been met." *Best*, 371 U.S. at 336; *Freese v. United States*, 639 F.2d 754, 757 (Cl. Ct. 1981) (stating that "federal mining claims are 'private property' enjoying the protection of the fifth amendment"). The same is true for a validly used and occupied mill or tunnel site. *Bagwell*, 961 F.2d at 1456.

But the 2001 Opinion's consideration of the Mining Law saw only the haves and have-nots: either a miner had compensable property rights in a perfected mining claim or had nothing. 2001 Opinion, at 2 (concluding that BLM could not authorize reasonably incident mining uses on lands without valid mining claims "based on *any* rights that the Mining Law may otherwise be characterized as conveying" (emphasis added)). That opinion overlooked the fact that the plain text and purpose of the Mining Law authorize rights other than property rights in mining claims and patents. *Id.* (stating that without a discovery, "the claimant's right to use the claimed lands is no greater nor more secure than the right of anyone else seeking to use the public lands");[23] *see id.* at 4 (the only specific reference in the 2001 Opinion to § 22, which was not identified as statutory

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expressly stated that there was no authority to suspend review of a plan of operations simply because a validity exam was pending. *See* 141 IBLA at 86. More importantly, however, the lands at issue in *Pass Minerals* were withdrawn, making the legal analysis in that appeal inapplicable to the facts of *Western Shoshone Defense Project*. *See id.*

[23] The text and purpose of the Mining Law described above distinguish miners engaging in reasonably incident mining uses pursuant to the statutory right in § 22 from users of the public lands in general. For example, a film maker has no statutory right to access and use the public lands and must seek a permit under FLPMA, 43 C.F.R. § 2920.1-1(b); oil and gas producers have no statutory use right and must seek issuance of a lease under the Mineral Leasing Act, 30 U.S.C. §§ 181-287; and sand and gravel developers must, by statute, obtain a sales contract under the Materials Act of 1947. *Id.* §§ 601-604.

authority).[24] True, the self-executing right of free access for reasonably incident mining uses found in § 22 is not a compensable property right and thus is revocable. Nevertheless, the right of free access is a statutorily granted right that may be cognizable judicially [25] as well as—relevant to the conclusions of this Opinion—administratively, as the authority for applying the Subchapter C Mining Law regulations to those uses. Thus, the 2005 Opinion's rejection of the earlier opinion's "matter of right" versus "matter of discretion" false dichotomy was altogether proper.[26] *See* 2005 Opinion, at 2.

The Department may not abridge the statutory right in § 22 by regulation or policy that imposes mining claim validity as a condition of reasonably incident mining uses on open lands.

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[24] This error found its way into an opinion by the United States District Court for the District of Columbia, which relied on the 2001 Opinion for its analysis of a facial challenge to BLM's Subpart 3809 regulations. *See Mineral Pol'y Ctr. v. Norton*, 292 F. Supp. 2d 30, 48 (D.D.C. 2003) (quoting the 2001 Opinion to "properly describe[]" BLM's discretion to regulate based on whether there are valid mining claims or mill sites). As in the 2001 Opinion, the district court's assertion that BLM's authority to regulate reasonably incident mining operations on open lands was related to the existence of a mining claim failed to recognize the statutory right in § 22 as anything other than "the right to *explore for* valuable mineral deposits." *Id.* at 47 (emphasis added). Moreover, the cases it cited for the proposition that a mining claimant's "use of the land may be circumscribed beyond the ["unnecessary or undue degradation"] standard because it is not explicitly protected by the Mining Law" refer only to a mining claimant's ability to establish property rights, not the statutory right to access and use open lands. *Id.* at 48 (citations omitted).

[25] Thus, if BLM were to deny a proposed plan of operations on open lands that otherwise complies with BLM's regulations, the miner might have sufficient injury-in-fact to support a challenge to the agency's action. But the miner certainly would not be able to assert any cognizable claim for a taking of a property right under the Fifth Amendment because the mineral disposal authority in § 22 alone is not a protected property right. *See* 2 *Lindley on Mines* § 216, at 475 (stating "the general rule that mere occupancy of the public lands and placing improvements thereon give no vested right therein as against the United States . . . .").

[26] Rescission of the 2001 Opinion also remedied the legal infirmity inherent in that opinion's assertion that the multiple use provisions in section 302(a) of FLPMA and BLM's "special use" regulations in 43 C.F.R. Subchapter B–Land Resource Management (2000) could be used to regulate—and even prohibit—reasonably incident mining uses as a "matter of discretion" on any lands not covered by a valid mining claim. *See* 2001 Opinion, at 13; *see, e.g.*, 43 C.F.R. §§ 2920.0-6(a), 2920.7 (examples of considerations before discretionary authorizations). Such an interpretation would require miners to seek a new authorization for the same reasonably incident mining uses each time the mining claim's status changed, including through accidental forfeiture. Miners would similarly need to seek a new authorization each time there was a change in the commodities price that affected the mineral deposit's marketability—and thus the mining claim's validity—or be in jeopardy of a possible enforcement or trespass action for not holding the appropriate permit. Even more fundamentally, though, the suggestion that the multiple use provision applies to reasonably incident mining uses ignores that section 302(a) was not one of the four identified ways that FLPMA amended the Mining Law. *See* 43 U.S.C. § 1732(b) (listing the four amendments). As such, the 2001 Opinion clearly erred in suggesting that the Subchapter B regulations could be applied to reasonably incident mining uses.

The Department did not have authority to do so before it began to regulate reasonably incident mining uses, and none of the ways that FLPMA amended the Mining Law included the discretionary authority to limit the lands or minerals to which the disposal authority in § 22 applied. Rather, Congress made clear that the only way to withhold access or prohibit citizens from entering lands otherwise subject to the statutory right of free access in § 22 is to withdraw lands from the operation of the Mining Law under section 204 of FLPMA, 43 U.S.C. § 1714. *See* 43 U.S.C. § 1712(e)(3) (stating, in FLPMA's land use planning provisions, that "public lands shall be removed from or restored to the operation of the Mining Law of 1872 . . . only by withdrawal action pursuant to section 1714 of this title or other action pursuant to applicable law").[27] Consequently, so long as lands remain "free and open" and subject to the statutory right in § 22, whether lands are covered by a valid mining claim has no effect on BLM's ability to authorize reasonably incident mining uses under BLM's Subchapter C Mining Law regulations.

V. Related IBLA Decisions

As noted above, some of the lingering uncertainty regarding the Department's legal position on these subjects stems from certain IBLA decisions that predate and are inconsistent with the 2005 Opinion. *See, e.g.*, *Ctr. for Biological Diversity*, 162 IBLA 268 (2004); *W. Shoshone Def. Proj.*, 160 IBLA 32 (2003); *Great Basin Mine Watch*, 146 IBLA 248 (1998); *Sw. Res. Council*, 96 IBLA 105 (1987). To the extent these IBLA cases misconstrue the Mining Law, FLPMA, and BLM's implementing regulations by stating or implying that the authority to use lands for reasonably incident mining uses depends in any way on the existence of a valid mining claim, the Department should no longer reference or rely on these statements or implications in these decisions, or similar propositions in any others, when describing the authority to mine on open federal lands. Nor should the Department reference or rely on these decisions, or any others stating similar propositions, to support the notion that a valid mining claim is a prerequisite for regulating any reasonably incident mining uses on open lands under BLM's Subchapter C Mining Law regulations. Finally, because BLM's regulations do not contain any provision allowing the agency to suspend consideration of a proposed plan of operations on open lands during the pendency of any discretionary validity examination that BLM may conduct, those decisions and any others stating similar propositions are not precedent or authority for imposing such a requirement.

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[27] Thus, where there is a conflict between mining and another significant resource use of the public lands—or even where, in the absence of conflict, BLM merely wishes to prioritize other resource uses over mining—the appropriate resolution is a withdrawal under section 204 of FLPMA. *See* 43 U.S.C. § 1702(j) ("The term 'withdrawal' means withholding an area of Federal land from settlement, sale, location, or entry, under some or all of the general land laws, for the purpose of limiting activities under those laws in order to maintain other public values in the area or reserving the area for a particular public purpose or program; . . . ."); *Nat'l Mining Ass'n v. Zinke*, 877 F.3d 845, 873 (9th Cir. 2017) (upholding the Department's decision to withdraw lands in order to prioritize the identified resources, because regulation of reasonably incident mining uses was "inadequate to meet the purposes of the withdrawal"). Such action serves to rescind the "open invitation" in § 22, and prevents all reasonably incident mining uses, except on mining claims that are found to be valid as of the date of the withdrawal, and remain valid.

VI. Related Regulations and Policy Guidance

In researching this Opinion, I identified language in the BLM's Subchapter C Mining Law regulations and policy guidance that could be read as stating that BLM's authority to allow reasonably incident mining uses is dependent on or related to the existence of a mining claim. For example, the definition of "mining operations" in Subpart 3715 includes "building roads and other means of access *to a mining claim or millsite* on public lands." 43 C.F.R. § 3715.0-5 (emphasis added). One might infer from this language that the converse is not true—*i.e.*, that building roads and other means of access to a mine site where no mining claim or mill site is situated would not be considered "mining operations." Subpart 3802's definition of "mining operations" similarly might lead one to infer that a mining operation in a WSA would require at least one mining claim. *Id.* § 3802.0-5(f) (noting that the broad definition of "mining operations" applies "whether the operations take place on or off *the claim*" (emphasis added)); *see also id.* § 3802.0-5(e), (k) (defining "mining claim" and "valid existing right").[28]

At least one section of the BLM Manual also contains statements that appear inconsistent with the Department's legal position regarding whether a mining claim is required for reasonably incident mining uses of open lands. *See* Management of Wilderness Study Areas, MS-6330 (July 13, 2012). BLM Manual Section 6330 (MS-6330) states that the "degree and types of development allowed for various mineral uses depend on the date of the mineral right" with respect to the WSA designation. *Id.* § I.D.5.a., at 1-21. MS-6330 thus could be read to imply that BLM would, under some circumstances, require a determination regarding a "mineral right" (presumably a mining claim) before authorizing reasonably incident mining uses within WSAs, even on WSA lands that are open to the operation of the Mining Law. *See id.* § I.D.4.e., at 1-21 (acknowledging that WSA designation alone does not withdraw lands from the operation of the Mining Law and quoting section 603 of FLPMA, 43 U.S.C. § 1782(c)); *see also* 43 C.F.R. § 3802.1-5(b)(2) (stating that plans of operations "on a *claim with a valid existing right* are approved subject to measures that will prevent undue and [sic] unnecessary degradation of the area" (emphasis added)). While, as noted above, BLM has the discretion to determine validity at any time, this policy provision in MS-6330 could be read and applied in a manner that might be inconsistent with this and previous Opinions.[29]

Therefore, I recommend that BLM incorporate changes consistent with this Opinion in the course of revising its Subchapter C Mining Law regulations. I similarly recommend that BLM amend any sections of its Manual that contain policy guidance that implies or states that a mining

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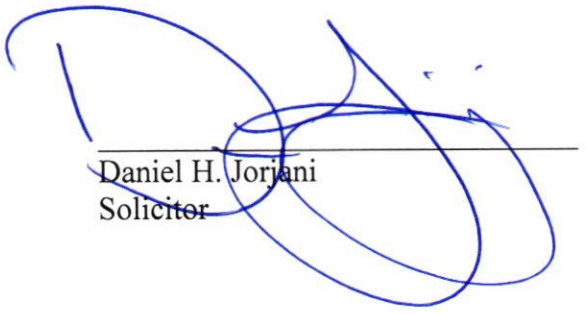
[28] The regulatory preambles to the Subchapter C Mining Law regulations, which reflect BLM's policy positions at the time the regulations were promulgated, also contain statements that state or imply that the existence of a mining claim is relevant to whether the regulations apply on open lands. 65 Fed. Reg. at 70,047 (2000 version of preamble to Subpart 3809); 61 Fed. Reg. at 37,116 (stating that the "regulations address[] the unlawful use and occupancy of unpatented mining claims for non-mining purposes[,]" implying that the use and occupancy provisions do not apply on all open land).

[29] Based on my review of previous Solicitor's Opinions, BLM's Subpart 3802 regulations and policy, and relevant federal and administrative case law, it is not surprising that the BLM's policy guidance regarding administration of reasonably incident mining uses in WSAs has been uneven. I am leaving that issue for more careful examination in a future opinion.

claim is relevant to authorizations of reasonably incident mining uses on open lands under its Subchapter C Mining Law regulations. In particular, BLM should immediately discontinue reliance on the minerals sections of MS-6330 and, with the help of my Office, promptly amend those provisions. Until MS-6330 is amended, I recommend that the BLM Director formally rescind that section of the BLM Manual to the extent it is contrary with this Opinion and applicable law.

VII. Conclusion

Based on the foregoing analysis, I reaffirm the Department's longstanding legal position that a valid mining claim is not required for reasonably incident mining uses of open lands, and BLM need not determine mining claim validity before deciding whether to approve such uses under any of the Subchapter C Mining Law regulations or before allowing such uses where approval is not required. Additionally, mining claim forfeiture or voidance has no effect on any existing authorization under the Subchapter C Mining Law regulations on open lands. Such reasonably incident mining uses of open lands are lawfully exercising the statutory right of free access embodied in the Mining Law's express invitation at 30 U.S.C. § 22 and are, axiomatically, operations "authorized by the mining laws" and properly regulated under BLM's Mining Law regulations in 43 C.F.R. Subchapter C.



Daniel H. Jorjani
Solicitor

EXHIBIT 2

American Exploration & Mining Association *Mining Law Fifth Amendment Takings Analysis*

July 2021

American Exploration &
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July 2021

MINING LAW FIFTH AMENDMENT TAKINGS ANALYSIS

I. INTRODUCTION[1]

During January of 2021, the Biden Administration issued two executive orders that are likely to shape policies, infrastructure development, and American jobs. First, Executive Order 14005: "Ensuring the Future is Made in All of America by All American Workers" to "maximize the use of goods, products, and materials produced in, and services offered in, the United States" and, second, Executive Order 14008: "Tackling the Climate Crisis at Home and Abroad" to focus on initiatives to advance a clean energy transition and development of clean energy technologies. Among their many implications, these orders should be the basis for promoting the production of minerals in the United States, especially those needed to support renewable energy technologies and infrastructure, including copper, nickel, manganese, graphite, lithium, cobalt, and rare earths, among others. To support this point, the International Energy Agency recently reported that "a concerted effort to reach the goals of the Paris Agreement . . . would mean a quadrupling of mineral requirements for clean energy technologies by 2040."[2]

The United States is blessed with rich mineral reserves enabling the Administration's Buy America focus to include the U.S. mining sector to source the renewable energy sector's mineral needs. In recent years, however, the United States Congress has proposed legislation that would disincentivize mineral investment in the U.S., increasing costs and reducing mineral ownership rights.

For example, in the 116th Congress, Congressman Raúl Grijalva introduced a bill to replace the General Mining Law of 1872 ("General Mining Law") with a leasing system.[3] Senator Tom Udall similarly proposed legislation to reduce the revenue interests of mining claim owners and impose burdensome royalties on existing unpatented mining claims.[4] These proposed laws would have restricted the use of public lands for mineral development purposes, taken possessory and unpatented mining claim interests in federal public lands, diminished the economic value of unpatented mining claims, and imposed unintended burdens on private inholdings and checkerboard lands through other regulatory burdens. These were not the first attempts to amend the General Mining Law,[5] and they likely will not be the last.

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[1] The principal authors express their appreciation for the substantial assistance with initial research, drafting, review, and editing by Alexander M. Arensberg, Esq., and Jacob M. Dillon, Esq.

[2] INTERNATIONAL ENERGY AGENCY, THE ROLE OF CRITICAL MINERALS IN CLEAN ENERGY TRANSITIONS 8 (2021), https://iea.blob.core.windows.net/assets/24d5dfbb-a77a-4647-abcc-667867207f74/TheRoleofCriticalMineralsinCleanEnergyTransitions.pdf.

[3] H.R. 2579, 116th Cong. (2019).

[4] S. 1386, 116th Cong. (2019).

[5] *See, e.g.*, *Effect of the President's FY 2016 Budget and Legislative Proposals for the Bureau of Land Management and the U.S. Forest Service's Energy and Minerals Programs on Private Sector Job Creation, Domestic Energy and Minerals Production and Deficit Reduction: Hearing Before the Subcomm. on Energy and Mineral Resources of the H. Committee on Natural Resources*, 114th Cong. (2015) (statement of Neil Kornze, Director, Bureau of Land Management) (describing President Obama's legislative proposal of instituting a leasing process for some minerals governed by the Mining Law); Press Release, Bureau of Land Management, President Proposes $1.13 Billion for BLM in Fiscal Year 2012 to Protect Resources and Manage Uses of Public Lands (Feb. 14, 2011) (describing attempts to convert some minerals covered by the General

Future legislators, however, must reconcile their attempts to regulate or eliminate unpatented mining claim rights with the Fifth Amendment's unconstitutional "takings" prohibition absent just compensation. Congress has successfully navigated such takings issues in the past, when it instituted the Mineral Leasing Act of 1920 ("MLA") and the Federal Land Policy and Management Act of 1976 ("FLPMA"), and it has addressed takings concerns on multiple occasions with regard to other proposed legislation to modify mining and mineral laws. Going forward, lawmakers should consider legislative and judicial precedent when considering mining law revisions. Otherwise, their actions could cost the federal government incalculable resources and taxpayer dollars.

This white paper discusses the protected rights and interests held by U.S. citizens who invest their time, effort, and capital to explore for, identify, and develop our country's much-needed minerals under the General Mining Law. It addresses whether these rights and interests are protected by the Fifth Amendment of the United States Constitution and evaluates past Congressional amendments and attempted changes to the General Mining Law which successfully avoided an unconstitutional taking. Lastly, this paper closes with a brief look at the potential litigation risks and damages the United States government would face if it were to extinguish mining claim rights from the nearly 400,000 active unpatented mining claims[6] currently held by its private citizens.

II. PROPERTY RIGHTS UNDER THE GENERAL MINING LAW OF 1872

The General Mining Law states as follows:

> That all valuable mineral deposits in lands belonging to the United States, both surveyed and unsurveyed, are hereby declared to be free and open to exploration and purchase, and the lands in which they are found to occupation and purchase, by citizens of the United States and those who have declared their intention to become such, under regulations prescribed by law, and according to the local customs or rules of miners, in the several mining-districts, so far as the same are applicable and not inconsistent with the laws of the United States.

Mining Law of 1872 § 1, 17 Stat. 91 (codified at 30 U.S.C. § 22) ("Section 22"). Section 22 provides a "free and open" invitation to all U.S. citizens (and those who intend to become U.S. citizens) to enter federal lands to explore for and produce minerals, and engage in activities reasonably incident to mining. This statutory grant allows the attainment of property rights to be self-executing and creates a right of self-initiation for U.S. citizens to enter, occupy and acquire privately owned interests in the public domain. Property interests acquired under this law include the right to explore, possess, profit from and exercise mineral and mineral-related surface rights, and these property interests in federal lands evolve incrementally through the entry, location and maintenance process. Certain rights and protections are acquired early, before the unpatented claim is even documented in the public records, and before the

Mining Law to a leasing system); *see also* H.R. 2262, 110th Cong. (2007) (seeking to impose gross royalties of 4 percent on existing mines and 8 percent on new mines); *United States v. Shumway*, 199 F.3d 1093, 1098 (9th Cir. 1999).

[6] BUREAU OF LAND MANAGEMENT, PUBLIC LAND STATISTICS 2019 128 tbl. 3-22, 130 tbl. 3-23 (2020), https://www.blm.gov/sites/blm.gov/files/PublicLandStatistics2019.pdf, (Tables 3-22 and 3-23 showing fiscal year claims managed by the United States Bureau of Land Management ("BLM")).

discovery of any valuable mineral deposit.[7] From their initial location, unpatented mining claim rights are considered "real property in the fullest sense" enforceable by law.[8] As such, Constitutional protections extend "to every sort of interest the citizen may possess."[9]

Through the General Mining Law, and its process of conferring property rights, Congress sought to encourage citizens to invest (and risk) their own resources to develop America's domestic mineral resources — a goal that is still very applicable and even more important today.[10] To achieve this goal, Congress offered miners security of tenure, protecting their possessory rights and protecting any "mining claims" or "mining locations" staked or located "according to the local customs or rules of miners."[11] Though Congress has amended and attempted to change the General Mining Law numerous times since its original passage, it has continuously recognized the existence of property rights vested in its citizens under this law, and has taken specific measures to protect valid existing rights. In this regard, "[i]t is a matter beyond dispute that mining claims are 'private property' enjoying the protection of the fifth amendment."[12]

III. UNPATENTED MINING CLAIMS ARE PROTECTED BY THE FIFTH AMENDMENT

The Fifth Amendment prohibits governmental "takings" of private property for public use without "just compensation."[13] A taking occurs if there is: (1) an "actual" taking (*i.e.*, the government physically (or

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[7] *See, e.g.*, *Earthworks v. United States DOI*, 496 F. Supp. 3d 472, 479, 491–92 (D.D.C. 2020) (specifically recognizing pre-discovery rights vested in unpatented mining claim owners, including exploration rights and *pedis possessio* rights, as well as their protections); *Best v. Humboldt Placer Mining Co.*, 371 U.S. 334, 336 (1963); *Creede & Cripple Creek Mining & Milling Co. v. Uinta Tunnel Mining & Transp. Co.*, 196 U.S. 337, 354 (1905) ("[I]t is not a vital fact that there was a discovery of mineral before the commencement of any of the steps required to perfect a location . . . ."); *see also Union Oil Co. of Cal. v. Smith*, 249 U.S. 337 (1919) ("[T]he order of time in which these acts [discovery, marking and recording a claim] occur is not essential in the acquisition from the United States of the exclusive right of possession . . ."); *Davis v. Nelson*, 329 F.2d 840, 845 (9th Cir. 1964) ("[O]ccupation and working of the claim . . . gives the locator a limited defendable right of possession . . . .").

[8] *Wilbur v. United States* ex rel. *Krushnic,* 280 U.S. 306, 316 (1930) (holding the perfected location of mining claim "is property in the fullest sense of that term; and may be sold, transferred, mortgaged, and inherited without infringing any right or title of the United States"); *Best*, 371 U.S. at 335–36; Shumway, 199 F.3d at 1100 & n.26 (defining a mining claim as "real property in every sense, and not merely an assertion of a right to property" and citing *Benson Mining & Smelting Co. v. Alta Mining & Smelting Co.*, 145 U.S. 428 (1892)); *Independence Min. Co. v. Babbitt*, 885 F. Supp. 1356, 1366 (D. Nev. 1995) (citing *Swanson v. Babbit,* 3 F.3d 1348, 1350 (9th Cir. 1993)); *see also Saltzman v. United States*, No. 13-1014L, 2014 WL 4050181 at *3 (Fed. Cl. Aug. 15, 2014) (finding plaintiff alleged valid property interests in an unpatented mining claim); *see also Belk v. Meagher*, 104 U.S. 279, 283 (1881) ("There is nothing in the act of Congress which makes actual possession any more necessary for the protection of the title acquired to such a claim by a valid location, than it is for any other grant from the United States.").

[9] *Freese v. United States*, 639 F.2d 754, 757 n.3 (Ct. Cl. 1981) (quoting *United States v. General Motors Corp.,* 323 U.S. 373, 377–78 (1945)).

[10] OFFICE OF THE SOLICITOR, UNITED STATES DEPARTMENT OF INTERIOR, OPINION NO. 37057, AUTHORIZATION OF REASONABLY INCIDENT MINING USES ON LANDS OPEN TO THE OPERATION OF THE MINING LAW OF 1872 3, 4 (Aug. 17, 2020) ("Opinion M-37057"); *United States v. Cal. Midway Oil Co.,* 259 F. 343, 351–52 (S.D. Cal. 1919) *aff'd*, 279 F. 516 (9th Cir. 1922) *aff'd mem.*, 263 U.S. 682 (1923).

[11] 30 U.S.C. §§ 23, 26, 35, 36, 38; *Shumway*, 199 F.3d at 1098.

[12] *Freese v. United States,* 639 F.2d at 757 (describing "property" as "composed of the rights of use, enjoyment and disposition. . . to the exclusion of all others" (citation omitted)); Shumway, 199 F.3d at 1100–01 (discussing *United States v. North American Transportation & Trading Co.,* 253 U.S. 330 (1920) and *Swanson v. Babbitt,* 3 F.3d 1348 (9th Cir. 1993)).

[13] U.S. CONST. amend. V ("[N]or shall private property be taken for public use, without just compensation.").

legislatively) confiscates or occupies property)[14]; or (2) a "regulatory" taking (*i.e.*, government action, by legislation or regulation deprives the owner of economically reasonable use of the property).[15] Whenever the government's action constitutes a taking, it is required to pay the property owner "just compensation" (*i.e.*, fair market value).[16]

In the context of an "actual" taking, any seizure from the bundle of privately held rights is considered a categorical or *per se* taking, requiring appropriate compensation.[17] This means the constitutional protection is triggered whether the government takes or limits only a portion of the privately held interests, or takes the entirety of rights held by the private party.[18] This point has been emphasized by the United States Supreme Court as recently as its latest term, where it struck down a California access regulation that limited the rights of farm owners to exclude others from their property.[19] "When the government physically takes possession of an interest in property for some public purpose, it has a categorical duty to compensate the former owner, regardless of whether the interest that is taken constitutes an entire parcel or merely a part thereof."[20]

Courts have consistently held that appropriations of patented mining claim interests constitute an "actual taking" under the Fifth Amendment.[21] It follows that the conversion of unpatented mining claims into

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[14] *Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Plan. Agency*, 535 U.S. 302, 324 (2002); *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1015–16 (1992); *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419, 441 (1982).

[15] *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1004 (1984); *Penn Cent. Transp. Co. v. City of New York*, 438 U.S. 104, 124 (1978); *Pa. Coal Co. v. Mahon,* 260 U.S. 393, 415 (1922).

[16] *First English Evangelical Lutheran Church of Glendale v. Cnty. of Los Angeles*, 482 U.S. 304, 319 (1987); *United States v. 564.54 Acres of Land*, 441 U.S. 506, 510–12 (1979); *Olson v. United States*, 292 U.S. 246, 255 (1934); *Monongahela Navigation Co. v. United States*, 148 U.S. 312, 326 (1893); *see also Freese,* 226 Ct. Cl. at 255–56 ([G]overnmental seizure of private property for public use -- is unconstitutional unless followed by payment . . . of the fair market value of what was taken" and holding that "federal mining claims are 'private property' enjoying the protection of the fifth amendment." (quotation marks omitted, citation omitted)).

[17] *See, e.g.*, *Vulcan Materials Company v. City of Tehuacana*, 369 F.3d 882, 888–89 & n.5 (5th Cir. 2004) (discussing a "partial taking" (where the government action triggers the Fifth Amendment in destroying or taking one or more strands from the bundle of sticks)).

[18] *Id.*; *Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Planning Agency*, 535 U.S. 302, 322 (2002); *United States v. Causby*, 328 U.S. 256, 262 (1946) (government use of airspace above property adjacent to its runways constituted a taking in the form of an easement which triggers the Fifth Amendment "as directly and completely as if it were used for the runways themselves"); *Jacobs v. United States*, 290 U.S. 13 (1933); *Hendler v. United States*, 952 F.2d 1364 (Fed. Cir. 1991); *Florida Rock Indus. v. U.S.*, 18 F.3d 1560, 1568 (Fed. Cir. 1994) ("Nothing in the language of the Fifth Amendment compels a court to find a taking only when the Government divests the total ownership of the property; the Fifth Amendment prohibits the uncompensated taking of private property without reference to the owner's remaining property interests." (emphasis omitted)); *Freese,* 226 Ct. Cl. at 256 n. 3 (noting that the Constitutional protection extends to "every sort of interest the citizen may possess" (quoting *United States v. General Motors Corp.*, 323 U.S. 373, 377–78 (1945)).

[19] *Cedar Point Nursery v. Hassid*, 594 U.S. ____, 141 S. Ct. 2063, 2021 U.S. Lexis 3394 at *24 (2021) (Even when "the government's intrusion does not vest it with a property interest recognized by state law, such as a fee simple or a leasehold . . . . [W]e recognize a physical taking all the same."); *see also United States v. Causby*, 328 U.S. 256 (1946); *Portsmouth Harbor Land & Hotel Co. v. United States*, 260 U.S. 327 (1922).

[20] *Tahoe-Sierra Pres. Council*, 535 U.S. at 322 ("[C]ompensation is mandated when [even] a leasehold is taken . . . ."); *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419, 441 (1982); *United States v. Shumway*, 199 F.3d 1093, 1100 (9th Cir. 1999) ("[T]he government cannot reserve its own land from an unpatented mining claim without paying the owner the value of the claim, because an unpatented mining claim is property."); *Freese,* 226 Ct. Cl. at 256.

[21] *See, e.g.*, *Horne v. Dep't of Agriculture*, 576 U.S. 350, 357-358 (2015); *Ark. Game and Fish Comm'n v. United States*, 568 U.S. 23, 31 (2012) ("'When the government physically takes possession of an interest in property for some public purpose,

mineral leases likewise constitutes an actual "taking" under this provision.[22] Though not originally rising to the level of "full fee property," from their initial location, unpatented mining claims are considered real property "in the fullest sense" enforceable by law.[23] Notably, the General Mining Law establishes property interests in mining claimants at various stages throughout the location process, creating specific exploration and possessory rights even prior to the discovery of a valuable mineral deposit.[24] In this regard, courts have established that "unpatented mining claims are themselves property protected by the Fifth Amendment against uncompensated takings."[25] To the extent a claimant complies with statutory requirements, his or her mineral and other associated rights in unpatented mining claims can continue without term limits.[26] Mining law legislation that would terminate or even partially take these possessory rights, replacing unpatented claims with something less (*i.e.*, lease term limitations or lower net revenue interests[27]), amounts to an unconstitutional taking and would require compensation.[28] This principle has

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it has a categorical duty to compensate the former owner.'" (quoting *Tahoe-Sierra Preservation Council, Inc. v. Tahoe Regional Planning Agency*, 525 U.S. 302, 322 (2002)); *Strickley v. Highland Boy Gold Mining Co.*, 200 U.S. 527, 529–31 (1906); *Loretto v. Teleprompter Manhattan Catv Corp.*, 458 U.S. 419, 427 (1982); *Shumway*, 199 F.3d at 1103.

[22] *Clawson v. United States*, 24 Cl. Ct. 366, 369 (1991) ("Clearly, compliance with the [Mining Law] and its implementing regulations may give a mineral claimant a possessory interest in property the extinguishment of which can support a Fifth Amendment taking claim."); *see also Best v. Humboldt Placer Mining Co.*, 371 U.S. 334, 335–38 (1963); *Forbes v. Gracey,* 94 U.S. 762, 766 (1876); *Skaw v. United States*, 740 F.2d 932, 936 (Fed. Cir. 1984) (holding that an unpatented mining claim is a property right which is within the protection of the Fifth Amendment's prohibition against the taking of private property without just compensation) (citing *Freese*); *see also* Department of Interior & Related Agencies Appropriations Act, 1998, Pub. L. No. 105-83, 111 Stat. 1543, § 120 (acknowledgement by Congress that its taking of both patented and unpatented mining claims is subject to limitations under the Fifth Amendment as it enacted legislation to acquire title to mining claims located within the Denali National Park and Preserve).

[23] *Wilbur v. United States* ex rel. *Krushnic*, 280 U.S. 306, 316 (1930); *United States v. N. Am. Transp. & Trading Co.*, 253 U.S. 330, 333–35 (1920); *Indep. Mining Co. v. Babbitt*, 885 F. Supp. 1356, 1366 (D. Nev. 1995) (citing *Swanson v. Babbit,* 3 F.3d 1348, 1350 (9th Cir. 1993)); *see also United States v. Locke*, 471 U.S. 84, 104 (1984); *Belk v. Meagher*, 104 U.S. 279, 283 (1881); *Saltzman v. United States*, No. 13-1014L, 2014 WL 4050181 at *1 (Fed. Cl. Aug. 15, 2014) (finding plaintiff alleged valid property interests in an unpatented mining claim).

[24] *See, e.g.*, *Best*, 371 U.S. at 336 (citing with approval *United States v. Houston*, 66 I.D. 161 (1959)) ("A locator who does not carry his claim to patent does not lose his mineral claim, though he does take the risk that his claim will no longer support the issuance of a patent."); *see also Union Oil Co. of Cal. v. Smith*, 249 U.S. 337, 347 (1919) ("[T]he order of time in which these acts [discovery, marking and recording a claim] occur is not essential in the acquisition from the United States of the exclusive right of possession of the discovered minerals . . . ."); *Creede & Cripple Creek Mining & Milling Co. v. Uinta Tunnel Mining & Transp. Co.*, 196 U.S. 337, 354 (1905) ("[I]t is not a vital fact that there was a discovery of mineral before the commencement of any of the steps required to perfect a location . . . ."); Houston, 66 I.D. at 165 ("[Even] if the locator elects not to carry his claim to patent . . . his rights to the minerals in the claim are not diminished."); *see also Earthworks v. United States DOI*, 496 F. Supp. 3d 472, 479, 491–92 (D.D.C. 2020) (specifically recognizing pre-discovery rights vested in unpatented mining claim owners, including exploration rights and *pedis possessio* rights, as well as their protections).

[25] *Kunkes v. United States,* 78 F.3d 1549, 1551 (Fed. Cir. 1996) (citing *Best*, 371 U.S. at 334); *see also Chittenden v. United States*, 126 Fed. Cl. 251, 262 (2016) (holding that a valid unpatented mining claim constitutes property fully protected by the Fifth Amendment); *see also Forbes v. Gracey*, 94 U.S. 762, 766 (1876); Skaw, 740 F.2d at 936; *Davis v. Nelson*, 329 F.2d 840, 845 (9th Cir. 1964); *Clawson v. United States*, 24 Cl. Ct. 366, 369 (1991); *Freese v. United States*, 639 F.2d 754, 757 (Ct. Cl. 1981).

[26] *See*, *e.g.*, 30 U.S.C. §§ 26–28; Shumway, 199 F.3d at 1100 (holding owner of a mining claim 'is not required . . . to secure patent from the United States; so long as he complies with all provisions of the mining laws, his possessory right, for all practical purposes of ownership, is as good as though secured by patent.'" (quoting *Wilbur v. United States*, 280 U.S. 306, 316 (1930)).

[27] *See, e.g.*, H.R. 2579, 116th Cong. §§ 101(b)(1), 107(a) (2019); *see also* S. 1386, 116th Cong. § 201(a) (2019).

[28] *See generally Cedar Point Nursery v. Hassid*, 141 S. Ct. 2063, 2021 U.S. Lexis 3394 *14 (2021); *Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Plan. Agency*, 535 U.S. 302, 321–22 (2002); *United States v. Causby*, 328 U.S. 256 (1946);

been demonstrated on multiple occasions, not only in federal actions,[29] but cases where the government's power of eminent domain has been exercised by various parties to condemn right of ways through unpatented mining claims[30] or simply appropriate mining claims for a public purpose.[31]

As for "regulatory" takings, U.S. courts have ruled that a categorical or *per se* taking occurs whenever the government, through regulatory or legislative restrictions, completely destroys the property's economic value.[32] Regulatory takings often appear in the form of overburdensome restrictions placed on activities or uses of the privately held interests.[33] Even in situations where the economic value of a property is not entirely depleted, a "regulatory taking" can still be found based on three factors set forth in the seminal Supreme Court case, *Penn Central Transportation Co. v. New York City*[34] – namely (1) the overall economic impact on the owner, (2) the degree of interference with the owner's reasonable investment-backed expectations, and (3) the character of the government action. In the absence of a categorical or *per se* regulatory taking, U.S. courts will analyze these factors carefully to decide whether restrictions on property use go too far under the Fifth Amendment.[35]

Mining legislation that would regulate or restrict activities on unpatented mining claims (whether for environmental purposes or otherwise), to the point of denying owners the economically viable use of their property for mining purposes, amounts to an unconstitutional taking.[36] Restrictions that wholly destroy a mining claim's economic value amount to a *per se* or categorical taking of the privately held interest.[37] Restrictions that do not completely extinguish economic value may still trigger the Fifth Amendment if (1) the overall economic impact is significant, (2) the restrictions interfere with the reasonable investment-backed expectations of the claimant from when it acquired the unpatented mining claim, and (3) the restrictions are atypical when compared to those historically imposed by U.S. governmental bodies.[38] In these circumstances, the factual analysis required to defend or analyze regulatory takings issues in this context can be exhaustive, and each case is uniquely complex.[39]

Jacobs v. United States, 290 U.S. 13 (1933); Kunkes, 78 F.3d at 1551; *Fla. Rock Indus. v. United States*, 18 F.3d 1560, 1568–69 (Fed. Cir. 1994); *Hendler v. United States*, 952 F.2d 1364 (Fed. Cir. 1991); *Shumway*, 199 F.3d at 1101.

[29] Federal suits are frequently filed in the Federal Court of Claims pursuant to the Tucker Act. Enacted in 1887, the Tucker Act expressly waives the United States' sovereign immunity in certain kinds of claims – including takings claims under the Fifth Amendment. 28 U.S.C. §§ 1346(a), 1491 (2021); *see also, e.g.*, *Skaw v. United States*, 740 F.2d 932 (Fed. Cir. 1984).

[30] *See, e.g.*, *Las Vegas & Tonopah R.R. Co. v. Summerfield*, 129. P. 303, 305 (Nev. 1912) (acknowledging a mining company's right to just compensation based on its original certificate of location and filings – not the existence or proof of a valuable mineral deposit); *accord Jacobson v. Memmott*, 354 P.2d 569 (Utah 1960).

[31] *United States v. N. Am. Transp. & Trading Co.,* 253 U.S. 330, 333 (1920).

[32] *Tahoe-Sierra Pres. Council*, 535 U.S. at 322; *Lucas v. S.C. Coastal Council*, 505 U.S. 1003 (1992).

[33] *See supra* note 31; *see also Pa. Coal Co. v. Mahon*, 260 U.S. 393 (1922).

[34] 438 U.S. 104 (1978).

[35] *Id.*; *Murr v. Wisconsin*, 137 S.Ct. 1933 (2017)*; Keystone Bituminous Coal Ass'n v. DeBenedictis*, 480 U.S. 470 (1987); *Mountain States Legal Found. v. Hodel*, 799 F.2d 1423 (10th Cir. 1986).

[36] *See Pa. Coal Co. v. Mahon*, 260 U.S. 393, 415 (1922); *see also Penn Cent. Transp. Co. v. City of New York*, 438 U.S. 104, 130–31 (1978).

[37] *See Lucas v. S.C. Coastal Council*, 505 U.S. 1003 (1992); *Tahoe-Sierra Pres. Council*, 535 U.S. at 322.

[38] *See generally Murr v. Wisconsin*, 137 S.Ct. 1933 (2017); *Keystone Bituminous Coal Ass'n v. DeBenedictis*, 480 U.S. 470 (1987); *Mountain States Legal Foundation v. Hodel*, 799 F.2d 1423 (1986).

[39] *See*, *e.g.*, *Skaw v. U.S.*, 740 F.2d 932 (Fed. Cir. 1984).

Congress should avoid both *actual* and *regulatory* takings when considering proposed mining law revisions. As discussed in the following sections, history provides several instructive examples of how Fifth Amendment takings issues can be avoided.

IV. CONGRESS AVOIDED "UNCONSTITUTIONAL TAKINGS" THROUGH THE MINERAL LEASING ACT OF 1920 AND THE FEDERAL LAND POLICY AND MANAGEMENT ACT OF 1976

A. Legislative History for the Enactment of the Mineral Leasing Act of 1920

The MLA established a leasing and royalty system for the development of oil, gas, and other non-metalliferous minerals, thereby removing those minerals from the scope of the General Mining Law. Section 37 of the MLA, however, alleviated Fifth Amendment takings concerns by exempting preexisting unpatented mining claims from the new leasing and royalty system. On the date of its enactment, Section 37 of the MLA read as follows:

> That the deposits of coal, phosphate, sodium, oil, oil shale, and gas, herein referred to, in lands valuable for such minerals, including lands and deposits described in the joint resolution entitled "Joint resolution authorizing the Secretary of the Interior to permit the continuation of coal mining operations on certain lands in Wyoming," approved August 1, 1912 (Thirty-seventh Statutes at Large, page 1346), shall be subject to disposition only in the form and manner provided in this Act, except as to valid claims existent at date of the passage of this Act and thereafter maintained in compliance with the laws under which initiated, which claims may be perfected under such laws, including discovery.

Section 37 of the Act of February 25, 1920, c. 85, 41 Stat. 437, 451 (emphasis added).[40] The language in this savings clause clearly evinces a desire to avoid the extermination of existing rights, and legislative history confirms that Congress intended to preserve such existing rights of owners of claims, including those claims without a discovery. First, it is notable that the language of Section 37 was itself not subject to considerable debate and amendment – indicating the savings clause was not a controversial subject.[41]

Second, savings clauses like that in Section 37 had long been fixtures in the proposed legislation which preceded the MLA's enactment.[42] These previous clauses, like that contained in Section 37 of the MLA, were not subject to considerable debate and amendment – once again indicating that there was no significant dispute regarding whether savings clauses were necessary.[43]

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[40] Section 37's reference to coal entries number 18 to 49 in Lander, Wyoming is the result of the Act of August 1, 1912, 62nd Cong., Priv. Res. 4, 37 Stat. 1346 (formerly S.J. Res. 100, 62nd Cong.).

[41] *See, e.g.*, 58 Cong. Rec. 4578–81, 7781 (containing a debate in which the only facet of the savings clause being discussed was whether it should apply to "valid claims" as compared to "valid locations"; a discussion regarding the clause's necessity was notably absent).

[42] *See, e.g.*, H.R. 3232, 65th Cong.; S. 2812, 65th Cong.; H.R. 406, 64th Cong.; H.R. 16186, 63rd Cong.

[43] *See* Senate Debates, 58 Cong. Rec. 4054-57, 4111-17, 4160-76, 4247-4258, 4267-4290, 4415-4418, 4443-45, 4446-51, 4502, 4577-92, 4610, 4619-4623, 4731-89 (1919); House Debates, 58 Cong. Rec. 7509-38, 7596-7605, 7642-54 and 7767-91 (1919); House Conference Report, H. Rep. No. 600, 66th Cong., 2nd Sess. (1920); *see also* House Approval of Conference Report, 59 Cong. Rec. 2702-2714 (1920); Conf. Report Submission to Senate, 59 Conf. Rec. 2737-2742 (1920).

Finally, on the few occasions that these savings clauses were discussed in historical debates, it is clear that members of Congress believed "justice, fairness, and common decency" required their inclusion to ensure that pre-existing laws were applied "for the benefit of those who [had] acted" in accordance therewith.[44] Taken together, this history demonstrates that savings clauses have been a germane fixture of mineral leasing legislation for well over a century – with their inclusion being compelled by fundamental principles of "justice, fairness, and common decency."[45]

B. Legislative History for the Federal Land Policy and Management Act of 1976

Congress enacted the Federal Land Policy and Management Act[46] in 1976 to provide the Secretary of the Interior with authority to manage the federal public lands, including those lands containing mining claims located under the General Mining Law of 1872. FLPMA explicitly acknowledged the continued vitality of the General Mining Law, but amended it in two primary ways.

First, Section 314 imposed new claim filing and recordation requirements to give the BLM a mechanism to rid the federal lands of stale mining claims.[47] The Section 314 filing and recording requirement was applied to all mining claims and did not consider whether a claim had a discovery of a valuable mineral deposit (i.e., had been "perfected"). Congress required mining claim owners to make their initial Section 314 filing within three years of FLPMA's enactment for any claim that the owner intended to maintain as an active claim and to submit annual filings thereafter.[48]

Second, Section 302(b) directed the Secretary of the Interior, by regulation or otherwise, to take any action necessary to prevent unnecessary or undue degradation of the public lands.[49] The Section 302(b) mandate to "prevent unnecessary or undue degradation," however, included a savings clause providing that "no provision of this section or any other section of this Act shall in any way amend the Mining Law of 1872 or impair the rights of any locators or claims under that Act, including, but not limited to, rights of ingress and egress."[50]

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[44] 64 Cong. Rec. 1048-49; *see also* 58 Cong. Rec. Part 5, Leasing of Oil Lands 4,577-78 (daily ed. Aug. 30, 1919) (Sen. Jones reading 13 pieces of correspondence received from constituent claimholders in New Mexico, and reading correspondence from E.L. Medler stating that unpatented claimholders have vested property rights and prolonged litigation will ensue if the MLA strips them of these rights.); *see also* 58 Cong. Rec. Part 5, Leasing of Oil Lands 4,580-81 (Sen. Lenroot providing an example of a claimholder who falls under the protection of the MLA savings clause); 4,582 (Sen. Jones stating that, considering the congressional record, the Interior Department would not be justified in turning down a patent application for a claim that had been maintained under the Mining Law after the MLA is in effect).

[45] *Id.*

[46] Pub. L. No. 95-554, 92 Stat. 2073 (codified at 43 U.S.C. § 1701 *et seq*.)

[47] *Id.* § 1744.

[48] In FLPMA Section 314(d), Congress established that claim filings must be made for claims that did not have a discovery of a valuable mineral deposit and were thus not "valid" claims. *See* 43 U.S.C. § 1744(d) ("Such recordation or application by itself shall not render valid any claim which would not be otherwise valid under applicable law."). By requiring claim filings for all claims regardless of their discovery/validity status, FLPMA treats all claims equitably and does not create a different hierarchy or status for valid claims versus pre-discovery claims (i.e. claims of unknown validity and claims without a discovery); *see United States v. Locke*, 471 U.S. 84, 87, (1985)

[49] 43 U.S.C. § 1732(b).

[50] *Id.*

Third, Congress specifically preserved the savings clause from Section 37 of the MLA when it enacted FLPMA, confirming that the protections from that savings clause remain in effect.[51] Notably, the post-FLPMA amendment to Section 37 of the Mineral Leasing Act explicitly provided that the General Mining Law, not the MLA, would be applied to mining claims established prior to the MLA and that owners could continue working their claims for purposes of perfection and discovering a valuable mineral deposit.[52]

While analysis of the legislative history for FLPMA does not reflect a thorough debate in Congress over Fifth Amendment takings concerns, the application of this Act, and its inclusion of savings clauses, confirms Congress' goal to avoid triggering the Fifth Amendment, and shows the steps Congress took to avoid reducing unpatented mining claim interests or otherwise affecting the economic viability of unpatented mining claim ownership.[53]

V. CONGRESS HAS RECOGNIZED ON MULTIPLE OCCASIONS THAT MODIFICATIONS TO MINING AND MINERAL LAWS COULD RESULT IN UNCONSTITUTIONAL TAKINGS

Takings concerns have been discussed during congressional debates and hearings for various bills to amend the MLA of 1920 and the General Mining Law of 1872. The following sections discuss a number of these bills and their associated debates. While none of the bills discussed below were enacted into law, they evidence lawmakers' concerns that these proposed amendments would constitute a taking. Furthermore, as cited below, in considering each of these bills Congress heard comprehensive analysis from legal experts regarding potential takings issues. The testimony from those experts, including their written materials, provide a useful resource in evaluating future amendments to the General Mining Law.

A. H.R. 1039, 100th Cong. (1987)

In 1987, the House of Representatives passed H.R. 1039, entitled "[a] bill to amend section 37 of the Mineral Lands Leasing Act of 1920 relating to oil shale claims, and for other purposes."[54] H.R. 1039 would have converted unpatented mining claims for oil shale into a leasing system. Specifically, it would have amended the MLA to prohibit the issuance of patents for oil shale claims after February 5, 1987. It also would have required the owner of each unpatented oil shale claim to elect, within 90 days after enactment of the Act, to either: (1) apply to the Secretary for a lease; or (2) maintain its claim by complying with all laws pertaining to the maintenance of mining claims, including regulations regarding annual expenditures which represent diligent efforts towards shale oil production and substantial work on the claims.[55]

The legislative history for H.R. 1039 shows that the House considered whether the bill would constitute a taking under the Fifth Amendment, but it ultimately concluded that so long as the mining claimant's

[51] *Id.*

[52] 95 Pub. L. 554, 92 Stat. 2073 (1978).

[53] *See generally* Committee on Energy and Natural Resources, Compilation of the Legislative History of the Federal Land Policy and Management Act of 1976 (Public Law 94-579).

[54] H.R. 1039, 100th Cong. (1987).

[55] *See* H.R. 1039, § 2(b)(2).

"possessory interest" was not ***forcibly*** canceled, the provision would not amount to a constitutional taking.[56]

> One of the most widely debated issues during the Committee's deliberations on H.R. 1039 involved whether the legislation preserves the rights of the holders of the oil shale claims . . . . The Committee has taken great pains in this regard and finds the bill, as amended, fully protects the existing rights of the claim holders and represents a fair and just resolution of an issue which has plagued the administration of these public lands for more than 66 years.
>
> While holders of valid claims under the mining law have certain rights and interests in the property, the Congress, in the public interest, retains the right to regulate mining claims on federal lands. H.R. 1039 does not extinguish the existing rights and interests of claim holders by requiring them to elect either to continue holding the claims under certain new maintenance standards or to convert them to leases.
>
> H.R. 1039 will prohibit the patenting of most existing oil shale claims. This is consistent with other actions Congress has taken in the past placing limitations on the issuance of mining claim patents.[57]

Ultimately, the House Report for H.R. 1039 asserted that "the bill fully preserves the possessory right of the claim holders by providing them with the ***opportunity*** to either convert valid claims to oil shale leases or retain valid claims in compliance with the current law and a new, prospective, expenditure requirement."[58] The House Report, however, also included concerns and testimony that the Act would result in a taking under the Fifth Amendment if it were passed into law.[59] Specifically, numerous legislators argued that the prohibition on patenting amounted to a constitutional taking:

> H.R. 1039 changes the vested rights of the oil shale claimant. Section 2(b) prohibits the patenting of oil shale claims forevermore.
>
> * * * * *
>
> In our view, denial of a patent may well be a taking under the Fifth Amendment. Furthermore, the election provisions are unworkable and in conflict with established precedent governing the maintenance and patenting of oil shale claims under the 1872 General Mining Laws.
>
> * * * * *
>
> We seriously question whether the denial of patents to oil shale mining claimants is constitutional in these circumstances. United States Supreme Court decisions contemporaneous with the times these claims were located characterize the possessory

[56] *See* H.R. Rep. No. 100-43 (1987).

[57] H.R. Rep. No. 100-43, at 12 (1987).

[58] *Id.* at 13 (emphasis added).

[59] *Id.* at 21.

> rights of entrymen as "a substantial inceptive title" and that the owner of a valid claim has the right "to demand and receive a patent at a small sum per acre after he has put in" $500 worth of labor and improvements. It is under these kinds of rules that Congress passed the savings clause in the 1920 Mineral Leasing Act. If the miner had a valid oil shale claim, Congress recognized his right to receive a patent. To deny that recognition and expectation today may well be a taking. *Cf., Regional Rail Reorganization Act Cases*, 419 U.S. 102, 126-7 (1974).
>
> * * * * *
>
> If the Secretary determines under established practice and precedent, that the claims are valid, then the owner of the oil shale mining claim has a vested right to apply for a patent. The denial of that right appears to us to be a taking.
>
> We think there is serious doubt and little wisdom in denying the owner of a valid oil shale mining claim the right to the fee title. It seems peculiar public legislative policy to deny the owner of a valid oil shale claim a patent while the courts are at the same time recognizing, the mining claimant's rights "to prevent third parties from interfering with their possessory interest," and who have a "property right to possess and mine to extinction the minerals located on their unpatented claims." *Skaw v. United States*, 740 F.2d 932, 938, 940 (CA Fed., 1984). Those rights are within the protection of the Fifth Amendment's prohibition against the taking of private property for public use without just compensation.
>
> It seems abundantly clear that, while a guaranteed right to a mineral patent is in question, there is no doubt that the revocation or interference with the vested rights under a valid oil shale mining claim, whether by statute or the authorized action of an administrative official, will constitute a taking under the Fifth Amendment to the U.S. Constitution.[60]

As the House Report debate for H.R. 1039 reveals, the Committee determined that whether the bill restricting the patent process amounts to a legislative taking turned on whether the holder of an unpatented claim for oil shale had a vested property right in the ability to patent the claim.

The legislative history for that bill also shows that the House Subcommittee on Mining and Natural Resources heard testimony from several attorneys and the Director of the Bureau of Land Management regarding whether H.R. 1039 would constitute a legislative taking.[61] Of particular note, the BLM Director testified:

> If Congress enacts legislation affecting claimants' property rights, first it should determine the manner in which that legislation would affect claimants' rights previously established, and whether there would be an interference with those rights that would constitute a compensable taking. The Department is concerned that H.R. 1039 may well present constitutional problems . . .[62]

[60] *Id.* at 21–23.

[61] H. Hrg. 100-1 (Mar. 3, 1987).

[62] H. Hrg. 100-1 (Mar. 3, 1987) at p.24.

The BLM Director further identified Section 2(b)(2) of H.R. 1039, which addressed the conversion of existing oil shale mining claims to leases, as "a clear setting for [takings] concerns."[63] After summarizing case law concerning the constitutionality of protective requirements affecting unpatented mining claims, including *United States v. Locke*, *Freese v. United States*, and *Alaska Miner's Association v. Andrus*, the Director cautioned the subcommittee to carefully consider whether H.R. 1039 would amount to a compensable taking.[64]

B. Senate Bill No. 2089, 100th Cong. (1988)

After H.R. 1039 passed the House, the Senate considered it and the companion bill, S.B. 2089. Like H.R. 1039, S.B. 2089 would have (1) prohibited the issuance of oil shale mining claim patents after February 5, 1987, for any claim located prior to enactment of the MLA; and (2) required the owners of valid oil shale mining claims, located pursuant to the General Mining Law prior to enactment of the MLA, to make specified elections within 180 days after enactment of the act or be conclusively deemed to have abandoned the oil shale claim. Specifically, claim holders could elect to either convert their claims to leases or maintain their claims by compliance with federal mining laws and the Act.[65]

The Senate Subcommittee on Mineral Resources Development and Production held a hearing on S.B. 2089 and H.R. 1039.[66] The Subcommittee heard statements from numerous witnesses discussing whether the bill would constitute a legislative taking.

For instance, James E. Cason, Deputy Assistant Secretary, Land of Minerals Management, testified in his prepared remarks that Land and Minerals Management believed S. 2089 would constitute a taking.[67] "A valid mining claim carries with it a full bundle of rights, and S. 2089 would grant a clearly lesser set of rights. The undefined reduction would raise the issue of taking without just compensation . . . If S. 2089 were passed in its present form its effect on claimants' rights would be too onerous and not consistent with the Fifth Amendment as related to takings. Therefore, we strongly oppose S. 2089." Mr. Cason then further explained the agency's reasoning:

> From our perception, it certainly [would be a taking]. If you take a look at . . . a Supreme Court decision, back contemporaneous with the passage of the Mineral Leasing Act, and just post that period where we were beginning to deal with the issue again, in *Wilbur v. Krushnic*, . . . they looked at whether an unpatented mining claim is a private property right and decided that an unpatented mining claim is a property in the full sense of that term. The owner is not required to purchase the claim or secure a patent from the United States. But so long as he complied with the provisions of the Mining Law, his possessory right for all practical purposes is ownership. It is as good as if it were secured by a patent.[68]

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[63] *Id.*

[64] H. Hrg. 100-1 (Mar. 3, 1987) at p.27.

[65] *See* S. 2089, 100th Cong. (1988).

[66] *See* S. Hrg. 100-744 (Apr. 22, 1988).

[67] *Id.* at 47-49.

[68] *Id.* at 63.

Mr. Cason's response to questioning from Senator Wirth is also insightful. Sen. Wirth asked how the agency could view S. 2089 as a taking when unpatented mining claim holders do not have a property interest *in the option* to apply for patents under their claims. In response, Mr. Cason focused on the impact that S. 2089 would have on the underlying marketability of the unpatented claims, stating "we believe that the production requirement in S. 2089 raises the bill to a level of taking because of the very strong likelihood that shale oil in significant marketable amounts will not be obtainable from a claim within 10 years of enacting. This would be deemed abandoned . . . The elimination of the market value associated with the prospect of future utility we believe would be an un-constitutional taking."[69]

S. 2089 did not make it out of committee, and it is uncertain to what extent members of the Senate Subcommittee on Mineral Resources Development and Production were persuaded by the testimony heard on the legislative takings issue. Nevertheless, this testimony and legal analysis is useful in analyzing whether the disruption of unpatented mining claim interests or their conversion into mineral leases would constitute a federal taking, entitling claim owners to just compensation.[70]

C. Senate Bill No. 1126, 101st Cong. (1989-1990)

Senate Bill No. 1126, entitled "a bill to provide for the disposition of hardrock minerals on Federal lands, and for other purposes," was introduced during the 101st Congress (1989-1990).[71] S. 1126 never made it out of committee, but it would have forced owners of existing unpatented mining claims located pursuant to the General Mining Law to either (i) relocate their claim pursuant to the requirements of the new law or (ii) become obligated to comply with enhanced claims maintenance requirements set forth in the new law.[72] Furthermore, patents issued under the new law would have been subject to both a royalty and a reversionary interest in favor of the United States at the end of production. The hearing on S. 1126 before the Subcommittee on Mineral Resources Development and Production, Committee on Energy and Natural Resources, included an extensive discussion of whether the new law would amount to an unconstitutional taking.[73]

We note that a near identical version of S. 1126 was introduced in the subsequent Congress but like S. 1126 the newer bill did not make it out of Committee.[74] Before S. 433 was defeated, and in considering whether it would amount to a taking, the Subcommittee on Mineral Resources Development and

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[69] *Id.* at 66.

[70] We note that near identical versions of S. 2089 and H.R. 1039 were introduced in the subsequent Congress but also were not adopted into legislation. *See* S. 30, 101st Cong. (1989); H.R. 643 and H.R. 2392, 101st Cong. (1989); *see also* H.R. Rep. No. 101-49 (House Report for H.R. 643 including discussing of majority and minority views as to whether bill would constitute a taking).

[71] *See* S. 1126, 101st. Cong. (1989).

[72] *See* S. 1126, 101st Cong., §§ 501–502 (1989).

[73] S. Hrg. 101-205; *see* Statement of Sen. James McClure, S. Hrg. 101-205 (June 7, 1989) at 113 ("[i]t is very clear that a property owner may have the right to proceed to patent. It is not so clear whether that is a property right subject to the taking question."); Statement of Sen. Malcom, *id.* at 114 (describing the law's treatment of existing claim holders as a "constitutional taking"); *see also* Statement of Attorney Stephen Alfers, Davis, Graham & Stubbs, *id.* at 338 (providing legal analysis of whether the law would constitute a taking); Statement of John D. Leshy, Professor of Law, Arizona State University, *id.* at 362 (same).

[74] *See* S. 433, 102nd Cong. (1991).

Production again heard testimony from many of the same legal experts on the constitutional taking issue.[75]

VI. LEGAL ACTIONS AND JUST COMPENSATION RESULTING FROM UNCONSTITUTIONAL TAKINGS WOULD REQUIRE EXTENSIVE FEDERAL RESOURCES

If legislation were adopted in which unpatented mining claims are (1) converted into leases, (2) burdened with royalties, or (3) limited by restrictions that diminish economic viability, then Fifth Amendment takings liability would become a central obstacle. In such cases, taxpayer dollars would be wasted – at a minimum in litigation – as the government defends its destruction of these private property rights, contravening current case law precedent.[76] In the event of a taking, as required by the U.S. Constitution, the federal government would have to pay the claim holders "just compensation" usually measured by the "fair market value" of the property taken.[77] "[W]hen market value [is] too difficult to find, or when its application would result in manifest injustice to owner or public," other complicated measures are employed.[78] In these instances, courts would have "discretion in adopting a methodology that awards a takings plaintiff just compensation."[79] As a general matter, however, methodologies for just compensation must be based on "[t]he highest and most profitable use for which the property is adaptable[.]"[80]

With respect to unpatented mining claims, just compensation evaluations would likely require, first, an analysis of valid existing rights,[81] followed by an evaluation of the confirmed or unconfirmed mineral resource, potential mining costs, examination of the market value against similar mining claims, and a costly review of alternatives and multiple unique factors applicable to each unpatented mining claim or claim group. There are currently on record nearly 400,000 active unpatented mining claims on public

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[75] *See* S. Hrg. 102-258, 102nd Congress (1991).

[76] *Chittenden v. United States*, 126 Fed. Cl. 251, 262 (2016), *aff'd*, 663 F. App'x 934 (holding that unpatented mining claims are "valid against the United States if there has been a discovery of mineral within the limits of the claim."); *Freese v. United States*, 639 F.2d 754, 757 (Ct. Cl. 1981)

[77] *See United States v. 564.54 Acres of Land*, 441 U.S. 506, 511 (1979) (stating that fair market value is the Court's "relatively objective working rule" in determining just compensation); *United States v. Fuller*, 409 U.S. 488, 490 (1973) (noting that prior Supreme Court decisions have used fair market value as the standard of measuring just compensation); *United States v. Miller*, 317 U.S. 369, 374 (1943) (to find a practical standard of measuring just compensation, courts have adopted the concept of market value).

[78] *U.S. v. Commodities Trading Corp.*, 339 U.S. 121, 123 (1950); *see also Miller*, 317 U.S. at 374–75 (where property is taken and other property in its vicinity has not been sold in recent times, application of fair market value test is, at best, a guess); *Olson v. United States*, 292 U.S. 246, 255 (1934) ("Just compensation includes all elements of value that inhere in the property[.]").

[79] *McCann Holdings, Ltd. v. United States*, 111 Fed. Cl. 608, 613 (2013); *see also Childers v. United States*, 116 Fed. Cl. 486, 497 (2014) ("Just compensation should be carefully tailored to the circumstances of the case . . ."); *United States v. Va. Elec. & Power Co.*, 365 U.S. 624, 633 (1961) (holding that fair market value is "not an absolute standard nor an exclusive method of valuation"); Fuller, 409 U.S. at 490 ("The constitutional requirement of just compensation derives as much content from the basic equitable principles of fairness as it does from technical concepts of property law.") (citing *Commodities Trading Corp.*, 339 U.S. at 124).

[80] *Olson*, 292 U.S. at 255; *see also Clark's Ferry Bridge Co. v. Pub. Serv. Comm'n*, 291 U.S. 227, 234 (1934); *Boom Co. v. Patterson*, 98 U.S. 403, 408 (1878).

[81] *See Vane Minerals (US), LLC v. United States*, 116 Fed. Cl. 48, 57 (2014); *Shumway*, 199 F.3d at 1102 (9th Cir. 1999); *Swanson v. Babbitt*, 3 F.3d 1348, 1353 (9th Cir. 1993).

lands managed by the BLM.[82] In addition to takings liability for these unpatented mining claims themselves, changes to the General Mining Law could create potential takings liability to private landowners in situations where unpatented mining claims exist on federal lands checkerboarded with private sections, where inholdings are found, and where patented and unpatented mining claims are intermixed. To this point, federal courts have established that partial takings affecting the "integrated use" of such tracts may justify their treatment as a "single" or "larger" parcel for purposes of calculating Fifth Amendment takings damages.[83] Consequently, a determination of what constitutes "just compensation" for each mining claim would be a difficult and costly task, not to mention federal government liability and other costs associated with a likely flood of takings lawsuits.[84]

VII. CONGRESS SHOULD FOLLOW LEGISLATIVE PRECEDENT AND EXPRESSLY EXEMPT PREEXISTING UNPATENTED CLAIMS FROM ANY PROPOSED LEASING/ROYALTY SCHEMES

To avoid Fifth Amendment takings and the attendant inequity and costs, any mining law amendments or revisions enacted by Congress should follow the precedent of allowing claimholders to continue holding their pre-existing claims under the General Mining Law. The MLA and its "savings clause" provide a seminal example of legislation purposed towards changing unpatented claim procedures into a leasing scheme, without unconstitutionally taking protected property rights. Under Section 37, the "savings clause" of the MLA, unpatented mining claims that were actively maintained were protected regardless of whether valuable mineral deposits had been discovered or all aspects of the claim location process had been finalized.[85] The record reflects that both lawmakers and claimholders were concerned about how the law's transition to a leasing process would affect existing rights.[86] They were particularly concerned that the MLA would amount to a conversion of possessory interests and initial exploration

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[82] In fiscal year 2019 BLM reported 386,936 active mining claims. BUREAU OF LAND MANAGEMENT, PUBLIC LAND STATISTICS 2019 128 tbl. 3-22 (2020), https://www.blm.gov/sites/blm.gov/files/PublicLandStatistics2019.pdf; *see also* THE DIGGINGS, https://thediggins.com (currently reporting 422,500 active mining claims) (last visited July 25, 2021).

[83] *United States v. 33.92356 Acres of Land*, 585 F.3d 1, 10 (1st Cir. 2009) (quoting *Baetjer v. United States*, 143 F.2d 391, 394–95 (1st Cir. 1944)) ("[W]hether the parcels are a 'single tract' for takings purposes 'does not depend upon artificial things like boundaries between tracts . . . whether the owner acquired his land in one transaction . . . [or] whether holdings are physically contiguous.' The key question is whether the parcels have an 'integrated use.'" (addition in original)); *see also United States v. 4.0 Acres of Land*, 175 F.3d 1133, 1139 (9th Cir. 1999) (If the value of the remaining land diminishes when the condemned portion is removed from the larger whole, "the landowner is entitled to compensation 'both for that which is physically appropriated and for the diminution in value to the non-condemned property.'") (quoting *United States v. 33.5 Acres*, 789 F.2d 1396, 1398 (9th Cir. 1986); citing 71 Nichols on Eminent Domain § 12.03).

[84] *See, e.g.,* 58 Cong. Rec. Part 5, Leasing of Oil Lands 4,577-78 (daily ed. Aug. 30, 1919); (Sen. Jones reading correspondence from E.L. Medler stating that unpatented claimholders have vested property rights and prolonged litigation will ensue if the MLA strips them of these rights); *compare Earthworks v. United States DOI*, 496 F. Supp. 3d 472 (D.D.C. 2020).

[85] *See generally Union Oil Co. of Cal. v. Smith*, 249 U.S. 337, 347 (1919) ("[T]he order of time in which these acts [discovery, marking and recording a claim] occur is not essential to the acquisition from the United States of the exclusive right of possession of the discovered minerals . . . ."); *see also Creede & Cripple Creek Mining & Milling Co. v. Uinta Tunnel Mining & Transp. Co.*, 196 U.S. 337, 354 (1905) ("[I]t is not a vital fact that there was a discovery of mineral before the commencement of any of the steps required to perfect a location . . . ."); *Earthworks,* 496 F. Supp. 3d at 479, 491 (recognizing pre-discovery rights vested in unpatented mining claim owners, including exploration rights and *pedis possessio*, as well as the protection of those rights);

[86] 58 Cong. Rec. Part 5, Leasing of Oil Lands 4,577-78 (daily ed. Aug. 30, 1919) (Sen. Jones reading 13 pieces of correspondence received from constituent claimholders in New Mexico.).

rights, even in those cases where a valuable discovery had not yet been fully identified.[87] These claimants were prepared to defend their mining claims and property interests through various means, including litigation.[88]

In response to these concerns, the MLA's drafters protected all unpatented mining claims being actively maintained by claimholders. Notably, one senator confirmed that the MLA exempted any claimholder who "may not have made a discovery, but [who] complied with the mining laws up to the date of the passage of [the MLA]."[89] Another senator stated that the congressional record clearly establishes intent for the savings clause to apply to *all* preexisting unpatented claims.[90] Instead of legislating a blanket conversion of property interests, in 1920, Congress surgically amended the General Mining Law so as to not disturb pre-existing rights. This approach benefitted the federal government in later years when takings claims were addressed against the United States, as it simplified the judiciary's analysis to simply evaluating whether the mining claims had been actively maintained by the private owner,[91] and the larger liability exposure of the United States was avoided.[92]

In each instance where Congress modified rights under the General Mining Law, it avoided "takings" concerns through savings clause provisions. Notably, the MLA is the only major amendment to the General Mining Law that substantively changed the claims interest structure for mineral deposits on public lands into a leasehold process. The Multiple Surface Use Act of 1955, which reduced surface rights associated with unpatented mining claim ownership, also included a savings clause that preserved the existing rights of claimholders,[93] and numerous steps were taken in FLPMA to avoid triggering the Fifth Amendment with the implementation of that Act.[94] These successful amendments to the General Mining Law provide strong precedent for avoiding takings of protected property interests in the future.

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[87] *See id.*

[88] *Id.* (Sen. Jones reading correspondence from E.L. Medler stating that unpatented claimholders have vested property rights and prolonged litigation will ensue if the MLA strips them of these rights.).

[89] *Id.* at 4,580-81 (Sen. Lenroot providing an example of a claimholder who falls under the protection of the savings clause.).

[90] *Id.* at 4,582 (Sen. Jones stating that, considering the congressional record, the Interior Department would not be justified in turning down a patent application for a claim that had been maintained under the Mining Law after the MLA is in effect.).

[91] *Hickel v. Oil Shale Corp.*, 400 U.S. 48, 57–58 (1970) (holding Secretary of Interior was correct to invalidate existing oil shale claims where the claimants had not substantially complied with the maintenance requirements adopted by the MLA's savings clause); *accord Orion Rsrvs. Ltd. v. Salazar*, 553 F.3d 697, 708 (D.C. Cir. 2009); *Exxon Mobil Corp. v. Norton*, 346 F.3d 1244 (10th Cir. 2003); *Cliffs Synfuel Corp. v. Norton*, 291 F.3d 1250, 1260–61 (10th Cir. 2002) (holding mineral claimant's failure to perform assessment work for 46 years was merely "token" assessment work, inconsistent with the requirements of the MLA's savings clause, and the claims were, therefore, invalid).

[92] *See generall*y *supra* note 90.

[93] *See, e.g.,* The Act of July 23, Pub. L. 84-167, § 7, 69 Stat. 367 (1955) (preserving the existing surface rights associated with unpatented mining claim ownership which were held by *any claimant*).

[94] The various public land withdrawals from appropriation under the public land laws also uniformly preserve unpatented mining claims existing at the time of withdrawal. *See e.g., Skaw v. United States*, 740 F.2d 932, 933 (Fed. Cir. 1984) (withdrawal of the St. Joe River main stem under the Wild and Scenic Rivers Act of 1968, Pub. L. 90-542, 82 Stat. 906 (1968)); *Freese v. United States*, 639 F.2d 754, 755 (Ct. Cl. 1981) (withdrawal to create Sawtooth National Recreation Area under the Sawtooth Act, Pub. L. 92-400, 86 Stat. 612 (1972)); *United States v. N. Am. Transp. & Trading Co.*, 253 U.S. 330, 333 (1920) (public reservation for Army post under the Acts of March 3, 1899, c. 423, 30 Stat. 1064, 1070 and May 26, 1900, c. 586, 31 Stat. 205, 213).

VIII. CONCLUSION

Congress is likely to consider converting unpatented mining claims on federal lands into leases or imposing royalty burdens through future legislation. Congress may also consider imposing statutory obligations on claimholders that would diminish the economic viability of unpatented mining claim ownership. Any such destruction of property rights would expose the federal government to substantial liability risk under the Fifth Amendment of the United States Constitution. Any reformative measures to the General Mining Law should follow responsible congressional precedent by including a savings clause to preserve existing claims, including the right to pursue discovery. To do otherwise would not only be unjust, but could result in substantial federal resources and taxpayer dollars being wasted on takings issues, just compensation determinations, and needless litigation.

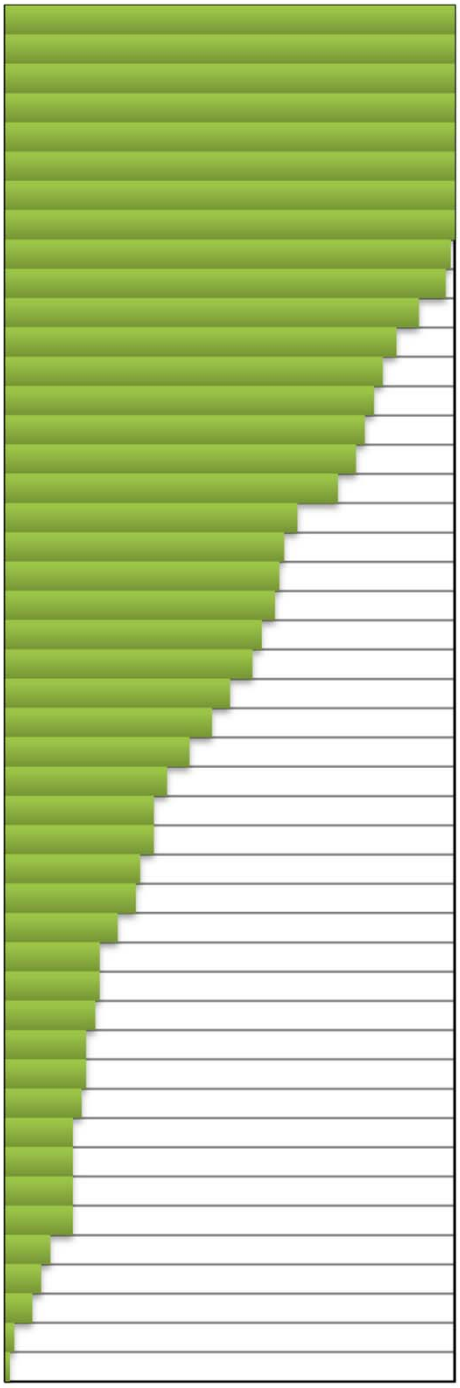
EXHIBIT 3

USGS 1995 and 2020 Net Mineral Import Reliance Charts

https://www.usgs.gov/centers/nmic/mineral-commodity-summaries

1995 U.S. NET IMPORT RELIANCE FOR SELECTED NONFUEL MINERAL MATERIALS

ARSENIC	100	China, Chile, Mexico
COLUMBIUM (niobium)	100	Brazil, Canada, Germany
GRAPHITE	100	Mexico, Canada, China, Madagascar
MANGANESE	100	South Africa, gabon, France, Brazil
MICA, sheet (natural)	100	India, Brazil, Finland, China
STRONTIUM (celestite)	100	Mexico, Germany
THALLIUM	100	Belgium, Canada, United Kingdom
YTTRIUM	100	China, United Kingdom, Hong Kong, Japan, France
BAUXITE & ALUMINA	99	Australia, Jamaica, Guinea, Brazil
GEMSTONES	98	Israel, India, Belgium, United Kingdom
FLUORSPAR	92	China, South Africa, Mexico
TUNGSTEN	87	China, Germany, Bolivia, Peru
TIN	84	Brazil, Bolivia, Indonesia, China
COBALT	82	Zambia, Norway, Canada, Zaire, Finland
TANTALUM	80	Australia, Germany, Canada, Thailand
CHROMIUM	78	South Africa, Turkey, Zimbabwe, Russia, Finland
POTASH	74	Canada, Belarus, Germany, Israel, Russia
BARITE	65	China, India, Mexico
IODINE	62	Japan, Chile
NICKEL	61	Canada, Norway, Australia, Dominican Republic
ANTIMONY	60	China, Mexico, South Africa, Hong Kong
STONE (dimension)	57	Italy, Spain, India, Canada
PEAT	55	Canada
MAGNESIUM COMPOUNDS	50	China, Canada, Mexico, Greece, Austria
ASBESTOS	46	Canada
ZINC	41	Canada, Mexico, Peru, Spain
DIAMOND (dust, grit & powder)	36	Ireland, China, Russia
SELENIUM	33	Canada, Philippines, Japan, Belgium, United Kingdom
SILICON	33	Norway, Brazil, Canada, Russia
GYPSUM	30	Canada, Mexico, Spain
PUMICE	29	Greece, Zaire, Turkey, Ecuador
ALUMINUM	25	Canada, Russia, Venezuela, Brazil
CADMIUM	21	Canada, Mexico, Belgium, Germany
IRON & STEEL	21	European Union, Canada, Japan, Brazil, South Korea
NITROGEN (fixed), AMMONIA	20	Trinidad & Tobago, Canada, Former Soviet Union, Mexico
IRON ORE	18	Canada, Brazil, Venezuela, Australia, Mauritania
SULFUR	18	Canada, Mexico
CEMENT	17	Canada, Spain, Greece, Venezuela, Mexico
LEAD	15	Canada, Mexico, Peru, Australia
SALT	15	Canada, Mexico, Bahamas, Chile
SODIUM SULFATE	15	Canada, Mexico
VERMICULITE	15	South Africa
MICA, scrap & flake (natural)	10	Canada, India
PERLITE	8	Greece
COPPER	6	Canada, Chile, Mexico
RARE EARTHS	2	Australia
LIME	1	Canada, Mexico



Additional commodities for which there is some import dependency include:

Bismuth	Mexico, Belgium, China, Peru
Gallium	France, Germany, Russia, United Kingdom, Hungary
Ilmenite	South Africa, Australia, Canada
Indium	Canada, France, Italy, Belgium, Russia
Iron & steel slag	Canada, Japan
Kyanite	South Africa, France
Mercury	Canada, Russia, Germany
Platinum	South Africa, United Kingdom, Belgium, Germany
Rhenium	Chile, Germany, United Kingdom, Russia, Kazakstan
Rutile	Australia, Sierra Leone, South Africa
Silver	Mexico, Canada, Peru, Chile
Thorium	Australia
Titanium (sponge)	Russia, Japan, China
Vanadium	Russia, South Africa, Canada, Mexico
Zirconium	Australia, South Africa

Data from U.S. Geological Survey, 1996, Mineral commodity summaries 1995: https://minerals.usgs.gov/minerals/pubs/mcs/1996/nir.gif

Figure 2.—2020 U.S. Net Import Reliance[1]

Commodity	Percent	Major import sources (2016–19)[2]
ARSENIC, all forms	100	China, Morocco, Belgium
ASBESTOS	100	Brazil, Russia
CESIUM	100	Canada
FLUORSPAR	100	Mexico, Vietnam, China, South Africa
GALLIUM	100	China, United Kingdom, Germany
GRAPHITE (NATURAL)	100	China, Mexico, Canada, India
INDIUM	100	China, Canada, Republic of Korea
MANGANESE	100	Gabon, South Africa, Australia, Georgia
MICA (NATURAL), sheet	100	China, Brazil, Belgium, India
NEPHELINE SYENITE	100	Canada
NIOBIUM (COLUMBIUM)	100	Brazil, Canada, Germany, Russia
RARE EARTHS,[3] compounds and metal	100	China, Estonia, Japan, Malaysia
RUBIDIUM	100	Canada
SCANDIUM	100	Europe, China, Japan, Russia
STRONTIUM	100	Mexico, Germany, China
TANTALUM	100	China, Germany, Australia, Indonesia
YTTRIUM	100	China, Republic of Korea, Japan
GEMSTONES	99	India, Israel, Belgium, South Africa
VANADIUM	96	Brazil, South Africa, Austria, Canada
TELLURIUM	>95	Canada, China, Germany, Philippines
BISMUTH	94	China, Republic of Korea, Mexico, Belgium
POTASH	90	Canada, Belarus, Russia
TITANIUM MINERAL CONCENTRATES	88	South Africa, Australia, Madagascar, Mozambique
DIAMOND (INDUSTRIAL), stones	84	South Africa, India, Botswana, Congo (Kinshasa)
ZINC, refined	83	Canada, Mexico, Peru, Spain
ANTIMONY, metal and oxide	81	China, Belgium, Thailand, India
SILVER	80	Mexico, Canada, Peru, Poland
PLATINUM	79	South Africa, Germany, Italy, Switzerland
STONE (DIMENSION)	79	China, Brazil, Italy, India
COBALT	76	Norway, Canada, Japan, Finland
PEAT	76	Canada
RHENIUM	76	Chile, Germany, Canada, Kazakhstan
ABRASIVES, crude fused aluminum oxide	>75	China, France, Canada, Russia
ABRASIVES, crude silicon carbide	>75	China, Netherlands, South Africa
BARITE	>75	China, India, Morocco, Mexico
BAUXITE	>75	Jamaica, Guyana, Australia, Brazil
IRON OXIDE PIGMENTS, natural and synthetic	>75	China, Germany, Brazil
CHROMIUM	75	South Africa, Kazakhstan, Mexico, Russia
TIN, refined	75	Indonesia, Malaysia, Peru, Bolivia
MAGNESIUM COMPOUNDS	54	China, Israel, Brazil, Netherlands
GOLD	52	Mexico, Canada, Peru, Colombia
GERMANIUM	>50	China, Belgium, Germany, Russia
IODINE	>50	Chile, Japan
LITHIUM	>50	Argentina, Chile, China, Russia
TITANIUM, sponge	>50	Japan, Kazakhstan, Ukraine
TUNGSTEN	>50	China, Bolivia, Germany, Austria
NICKEL	50	Canada, Norway, Finland, Russia
CADMIUM	<50	Australia, China, Canada, Germany
MAGNESIUM METAL	<50	Canada, Israel, Mexico, Russia
SELENIUM	<50	China, Philippines, Mexico, Germany
ALUMINA	49	Brazil, Australia, Jamaica, Canada
GARNET (INDUISTRIAL)	48	South Africa, India, China, Australia
DIAMOND (INDUSTRIAL), dust, grit, and powder	47	China, Ireland, Republic of Korea, Russia
PALLADIUM	40	Russia, South Africa, Germany, United Kingdom
SILICON, metal and ferrosilicon	38	Brazil, Russia, Canada
COPPER, refined	37	Chile, Canada, Mexico
MICA (NATURAL), scrap and flake	31	Canada, China, India, Finland
PERLITE	28	Greece, China, Mexico, Turkey
SALT	27	Chile, Canada, Mexico, Egypt
BROMINE	<25	Israel, Jordan, China
ZIRCONIUM, ores and concentrates	<25	South Africa, Senegal, Australia, Russia
LEAD, refined	24	Canada, Republic of Korea, Mexico, India
VERMICULITE	20	South Africa, Brazil, Zimbabwe, Kenya

[1]Not all mineral commodities covered in this publication are listed here. Those not shown include mineral commodities for which the United States is a net exporter (boron; clays; diatomite; helium; iron and steel scrap; iron ore; kyanite; molybdenum concentrates; sand and gravel, industrial; soda ash; titanium dioxide pigment; wollastonite; zeolites; and zinc concentrates) or less than 20% net import reliant (abrasives, metallic; aluminum; beryllium; cement; feldspar; gypsum; iron and steel; iron and steel slag; lime; nitrogen (fixed)–ammonia; phosphate rock; pumice; sand and gravel, construction; stone, crushed; sulfur; and talc and pyrophyllite). For some mineral commodities (hafnium; mercury; quartz crystal, industrial; thallium; and thorium), not enough information is available to calculate the exact percentage of import reliance.

[2]Listed in descending order of import share.

[3]Data include lanthanides.