



RESPONSES TO QUESTIONS FOR THE RECORD

submitted by:

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Subcommittee on Energy and Mineral Resources

September 3, 2025 Legislative Hearing on:

H.R. 280, H.R. 1366, H.R. 3872, H.R. 4018, H.R. 4068, and H.R. 4090

The Women's Mining Coalition very much appreciated the opportunity to testify on September 3, 2025, before the House Subcommittee on Energy and Mineral Resources and is pleased to respond to the following questions from Representative Fulcher and Chairman Westerman.

I. Questions from Rep. Fulcher:

- 1. Given your 30 years of experience with hardrock mining, how do you think expanding the Mineral Leasing Act for Acquired Lands to include hardrock leasing benefit states like Idaho which have an excessive amount of federally controlled land and have been blessed with vast mineral resources?**

Response:

Federally controlled lands cover 32,789,648 acres in Idaho, which is roughly 62 percent of the state's total acreage.ⁱ Although most of Idaho's federally controlled lands consist of public domain lands that are open to location under the U.S. Mining Law, 30 U.S.C 21a *et seq* (the Mining Law), there are scattered parcels of federal acquired lands that are subject to the Minerals Leasing Act for Acquired Lands of 1947 (MLAAL). For example, there are lands in southeastern Idaho that were acquired under the Bankhead Jones Land Tenant Act.

There is a significant difference in the Bureau of Land Management's (BLM's) and the U.S. Forest Service's (USFS') regulatory authorities to approve or restrict mineral activities depending on whether the land in question is public domain open to mineral entry under the Mining Law or is acquired land where mineral activities are subject to the MLAAL. The BLM's and the USFS' surface management regulations governing hardrock minerals pursuant to the Mining Law (e.g., BLM's 43 CFR Subpart 3809 and USFS' 36 CFR Part 228 Subpart A regulations) are non-discretionary programs, meaning BLM and USFS cannot categorically deny approval of mineral exploration and mining projects that comply with applicable environmental protection regulations and that provide the required financial assurance.

In marked contrast, the minerals leasing regulations governing hardrock mineral activities on acquired lands give the BLM and the USFS the discretionary authority to deny a lease application or revoke a lease. A recent example of the discretionary nature of the minerals leasing program is the Biden administration's 2023 revocation of the Twin Metals minerals leases in the Superior

National Forest in Minnesota. These leases covered lands containing a world-class copper-nickel-cobalt mineral deposit. In August 2025, the Department of the Interior reinstated these leases,ⁱⁱ which is a critically important step towards potential development of this mineral resource. The company involved can now resume the state and federal permitting processes for the proposed underground mining and mineral processing facilities.

According to Table 3-19 in BLM's 2024 *Public Lands Statistics*ⁱⁱⁱ document, there is only one hardrock minerals preference right lease in Idaho. This lease covers 41 acres and is likely on acquired lands subject to the MLAAL. By way of comparison, Table 3-22 in BLM's 2024 *Public Lands Statistics* shows Idaho had 39,694 unpatented mining claims and sites located pursuant to the Mining Law that covered 821,876 acres. This BLM document also shows there are numerous phosphate leases in Idaho. The phosphate leases are probably on public domain lands that have been leased pursuant to BLM's minerals leasing program authorized by the Minerals Leasing Act of 1920 (30 U.S.C. Sections 181 *et seq*) and regulated pursuant to the 43 CFR 3500 regulations for non-energy leasable minerals rather than under the MLAAL.

There is no doubt that H.R. 3872 would facilitate hardrock mineral development on lands that were acquired under laws that did not explicitly authorize exploration and development of hardrock minerals. For example, the above mentioned Bankhead Jones Land Tenant Act does not clearly authorize hardrock minerals exploration and development. H.R. 3872 would enable hardrock minerals leasing and development on these lands.

However, as described in my response to Chairman Stauber's question during the hearing about the constraints associated with the minerals leasing regulations applicable to acquired lands, even with H.R. 3872, the minerals leasing program will remain an impediment to mineral exploration and development. As currently administered, this program does not align the interests of the lessee to discover and develop a valuable mineral deposit with the federal government's authority to create regulatory barriers including time and acreage limits and the discretionary authority to abruptly curtail a lease – as the Biden administration demonstrated with its revocation of the Twin Metals leases. These unfavorable factors are significant disincentives to pursuing mineral activities on acquired lands.

The best way to encourage mineral exploration and development on Idaho's federal lands would be to: 1) make acquired lands subject to the self-initiated claims system in the U.S. Mining Law; and 2) remove the uncertainties stemming from 30 years of legislative threats to radically amend the Mining Law to erode or eliminate the security of land tenure that is the hallmark of this law. Ending the decades-long legislative threat to overhaul this law and addressing the confusion caused by the *Rosemont* litigation^{iv} is essential in reestablishing the U.S. as the leading producer of hardrock minerals. In response to the policy objectives of H.R. 4090 and Section 4 of EO 14241 "to clarify the treatment of waste rock, tailings, and mine waste disposal under the Mining Act of 1872," and to deal with the problems created by *Rosemont*, we suggest that H.R. 4090 be expanded to reiterate the following Mining Law principles:

- The U.S. Mining Law has always included the right to use and occupy lands open to location under the Mining Law, whether on or off claims, and with or without a discovery of a valuable mineral deposit, for all "operations" as defined in 43 CFR 3809.5:

“*Operations* means all functions, work, facilities, and activities on public lands in connection with prospecting, exploration, discovery and assessment work, development, extraction, and processing of mineral deposits locatable under the mining laws; reclamation of disturbed areas; and all other reasonably incident uses, whether on a mining claim or not, including the construction of roads, transmission lines, pipelines, and other means of access across public lands for support facilities;” and

- The U.S. Mining Law governs lands open to location under the Mining Law that are mineral-in-character, lands that are not mineral in character, and lands where the mineral character has not been determined, and has always authorized placing mine-support facilities on lands regardless of whether they are known to contain minerals, are determined to be nonmineral, or where the mineral character is unknown because the mineral character has not been determined.

Additionally, enacting H.R. 1366 would be another important element in reducing Mining Law land tenure uncertainties because it addresses the *Rosemont* court’s misinterpretation of the Mining Law. H.R. 1366 would authorize claimants to co-locate mining claims and a new type of mill sites proposed in this bill on the same parcel of land regardless of the mineralization status of the lands in question and to use the new mill sites for mine support facilities. This dual configuration could be used where mine waste management or other mine support facilities are located on the surface of lands overlying underground mining operations and where mined rock storage facilities that contain low-grade mineralization are built adjacent to open-pit mines.

H.R. 1366 also creates a long-awaited and much needed Abandoned Hardrock Mine Fund using the annual claims maintenance fees paid for the new mill sites. The mining industry has supported creating an abandoned mine reclamation fund for many years, suggesting that the claims maintenance fees paid for all mining claims and mill sites in excess of the funds needed for BLM’s Mining Law administration program be earmarked for an abandoned mine reclamation fund. The fund proposed in H.R. 1366 is a step in the right direction towards establishing this important fund.

2. Given the current length of time to get a mining project started, such as the Stibnite Gold Project in my district which took 14 years, how much time do you estimate mining projects will save due to the fast tracking designations in HR 4090?

Response:

The directives in H.R. 4090 to prioritize the development of mineral projects will send an important and durable signal to federal agencies, especially the surface land management agencies (e.g., BLM and the USFS), of the importance of removing the regulatory barriers to mineral exploration and development and to process permit applications for mineral exploration and development projects in a timely fashion. Establishing these requirements in statute is imperative because it will provide stability by requiring future administrations to take appropriate actions to ensure the country has a secure domestic minerals supply.

Because discovering and developing a mineral deposit takes many years, regulatory certainty across different administrations is essential. The Nation’s current minerals emergency is due in part to lack of investment in the mining sector in response to the whipsawing effect of changing

regulations and land use policies from one administration to the next. The directives in H.R. 4090 would add enduring and much needed regulatory certainty that would attract more investment in the mineral sector.

The streamlining measures in H.R. 4090, coupled with the proposed changes to the National Environmental Policy Act (NEPA) in Chairman Westerman's and Representative Golden's *Standardizing Permitting and Expediting Economic Development (SPEED) Act* (H.R. 4776), will work together to facilitate mineral exploration and mine development. Because NEPA currently stands as a barrier to building essential infrastructure and achieving energy and mineral dominance, the NEPA amendments proposed in the SPEED Act are needed to remove the threats NEPA currently poses to all industry sectors and to our economic wellbeing and national security. H.R. 4776's proposed codification of the key findings in the Supreme Court's May 2025 landmark NEPA ruling in *Seven County Infrastructure Coalition v. Eagle County, Colorado*, 145 S. Ct. 1497 (2025) and the litigation reforms in this bill will significantly improve the NEPA process.

The permitting process for the Stibnite Project would likely have been shortened by many years if both H.R. 4090 and H.R. 4776 had been the law of the land when permitting was initiated for this important gold-antimony project. In order to remove the permitting logjam, H.R. 4090 and H.R. 4776 should be considered as "a package deal." Working together, the directives in H.R. 4090 and the NEPA amendments in H.R. 4776, would dramatically improve the mine permitting process. Therefore, both bills need to be enacted in order to achieve the significant improvements in the permitting process needed to eliminate the current regulatory barriers impeding mineral projects.

II. Questions from Chairman Westerman:

- 1. Ms. Struhsacker, H.R. 4090 requires the Secretaries of Interior and Agriculture to identify current and former mine sites with potential to expand production of hardrock mineral byproducts. Can you explain the importance of byproduct minerals and how identifying these sites can help to boost domestic production?**

Response:

The August 26, 2025 Federal Register notice announcing the U.S. Geological Survey's (USGS') 2025 Draft Critical Minerals List (CML) includes a table that shows that 33 of the 54 listed critical minerals (61 percent) occur as a byproduct of a primary mineral. (See Table 1 at the end of this text). Table 1 also shows the primary host commodity(ies) for each byproduct critical mineral.

Generally speaking, mining companies do not recover byproduct minerals because it is not profitable to do so. Consequently, without an economic driver to produce many of the byproduct minerals on the CML, the private sector is unlikely to be able to provide these minerals. In fact, it is not uncommon for a mine operator to consider the presence of one or more byproduct critical mineral as a problem rather than as a resource because these minerals can create processing headaches and recovering them would require adding costly but otherwise unnecessary circuits to their milling facilities.

Another salient fact about some of the byproduct critical minerals on the CML is that the global volumetric demand for many of them is quite limited. Some of these critical minerals could be

characterized as “mini” and “micro” critical minerals. These mini and micro critical minerals are must-have essential components for many high-tech and defense applications, which means that not having a reliable supply has an outsized, unacceptably adverse impact to the economy, technology, and national defense. Appendix A in the Hoover History Lab’s August 11, 2025 working paper entitled *A Multilateral Commercial Stockpile for Critical Minerals*^v includes a table listing critical minerals and their annual U.S. total consumption, the market value for each mineral, and the percentage that is processed in other countries. Table 2 is a compilation from the Hoover Lab’s working paper for several mini and micro high-priority critical minerals that have a small annual U.S. total consumption and market value.

Nyrstar’s consideration of adding a germanium and gallium recovery circuit to their Clarksville, Tennessee zinc smelter (the only primary U.S. zinc producer) is a good example of a mining company’s deliberations about whether to expend corporate resources to add a critical minerals recovery circuit to an existing milling operation. As shown in Table 1, germanium is a byproduct of zinc and coal fly ash primary production and gallium is a byproduct of bauxite and zinc primary production. Nyrstar’s website states:^{vi}

“Nyrstar is currently assessing a proposed project to build a state-of-the-art germanium and gallium recovery and processing facility at its Clarksville zinc smelter in Tennessee. We estimate that the facility would produce as much as 80% of annual US Germanium and Gallium demand, enhancing US national security, supporting the green transition, and stimulating domestic supply of products currently imported from China. In addition, the project would increase the recovery and production of zinc. We are currently discussing the potential development with relevant government entities in order to finalise the business case and move forward with this investment as soon as practically possible.”

Because there may be no or limited economic incentives for the private sector to provide many of the byproduct critical minerals on the 2025 CML – especially the mini and micro critical minerals – the federal government will likely have to get involved with public-private partnerships to support and subsidize future production of these minerals. The price floor and guaranteed minerals purchase agreement in the recent transaction between the U.S. Department of Defense and MP Materials at the Mountain Pass rare earths operation in California may be a useful model for the government’s future involvement with other critical mineral producers.

There are significant metallurgical challenges associated with recovering many of the byproduct minerals include in the CML. This is especially true for rare earth minerals. Because recovering many of the listed byproduct minerals is not financially remunerative, it is unlikely that the private sector will undertake the mineral processing research and development (R&D) work that needs to be done to develop metallurgical methods capable of recovering these minerals – both at active mining operations and from legacy mine wastes. The federal government will most likely need to take the lead in developing byproduct recovery technologies for many of the byproduct minerals on the CML – especially for the mini and micro critical minerals. As discussed above, the private sector cannot justify the investments needed to perform the mineral processing R&D and then build the processing facilities, that typically cost many hundreds of millions of dollars or more.

Prior to 1995, when Congress stopped funding the U.S. Bureau of Mines (USBM), this is the type of mineral processing R&D that the USBM would have conducted. The 30-year gap in federal mining and mineral processing R&D is currently creating a technical expertise gap that must be immediately filled to respond to the urgent need to recover the byproduct critical minerals on the USGS' 2025 CML. Three decades of very limited federal mining and mineral processing expertise is partly responsible for the steady decline in U.S. mineral production and the concomitant increased reliance on imported minerals. As discussed in Attachment 1 to my written testimony, the Society for Mining, Metallurgy, & Exploration's (SME's) September 2024 concept paper, *Why the U.S. Needs a National Materials and Minerals Council*, Congress should take immediate action to reestablish the country's mining and mineral processing R&D capabilities. Developing this expertise is an essential component of responding to the national minerals emergency.

2. Ms. Struhsacker, H.R. 4090 directs a nationwide review state and local laws and regulations that hinder mineral exploration and development. What are some examples of state level actions that have harmed the mining industry and discouraged investment needed to bring new projects online?

Response:

This directive in H.R. 4090 will provide important insights on how state regulations create barriers that impede mining. One of the most egregious examples of a state-based barrier is California's requirement to backfill hardrock minerals open-pit mines and to return mined lands at metals mines to approximate original contour. These requirements create a *de facto* ban on developing hardrock (metals) mines in California because it is physically, technically, and economically impossible to meet these standards.

Recognizing that this unachievable requirement is inconsistent with the State's and the Nation's need for critical minerals, the California State Mining and Regulatory Board unanimously voted on May 15, 2025 to establish a Critical Minerals Committee to reevaluate this onerous regulation and the underlying statute, the California Surface Mining and Reclamation Act (SMARA).^{vii} This newly established committee will evaluate California's critical mineral resources, regulatory barriers, and supply chain vulnerabilities, and has been given the authority to recommend policy changes—including to amend the SMARA and mineral classification rules.

A similarly problematic state law is Montana's statewide categorical ban on new cyanide heap-leach and vat-leach mineral processing facilities at surface mines (i.e., open-pit mines). Voters approved this ban in a 1998 ballot initiative. In 2005, the Montana Supreme Court unanimously upheld the ban. In 2011, the Montana State Legislature enacted a law to overturn the ban that then Montana governor, Brian Schweitzer, vetoed.

California's backfilling requirement and Montana's cyanide heap and vat leaching ban are examples of two state policies that significantly interfere with rights under the Mining Law and the multiple use mandate in the Federal Land Policy and Management Act (FLPMA) governing BLM-administered lands and a similar mandate applicable on National Forest System lands. Both California and Montana have rich mining histories and undoubtedly have considerable under-explored and under-developed mineral potential. However, these prohibitive state laws function

as mining bans and therefore thwart the development of mineral deposits on federal lands in each state.

The Sage Grouse Conservation Credit programs in some western states are an example of policies that make mineral exploration and development much more expensive. Although programs like Nevada's Conservation Credit System (NCCS)^{viii} have achieved significant Greater Sage-grouse (GSG) habitat conservation to offset the unavoidable habitat impacts at Nevada mines and other projects, purchasing these credits is costly. Buying the necessary credits to offset habitat impacts can be a barrier for small companies with limited resources seeking to explore for minerals and develop mines.

These companies (often called junior mining companies) rely on private-sector investment to fund their mineral activities. Because investors typically want their investments to be used for on-the-ground activities to explore for minerals and develop mines rather than to pay for GSG conservation credits, it is very difficult to raise the necessary capital to pay for the conservation credits, which can cost millions of dollars if a project is located in a high quality GSG habitat area. I am aware of a promising gold project in Nevada where the company was unable to advance the project due in part to the \$10 million price tag to purchase the required number of habitat credits. This cost significantly reduced the Internal Rate of Return for the project rendering it an unattractive investment despite the presence of a significant gold deposit.

There are similar issues with Oregon's GSG mitigation credit program. I know of one small proposed Oregon mining project that has been given a cost estimate for GSG mitigation credits under Oregon's mitigation program that is on the order of 15 times what the credits on lands with similar GSG habitat would cost in neighboring Nevada. At this Oregon project, the cost of the GSG mitigation credits is in the tens of millions of dollars and constitutes the second highest project expense after the cost to construct the milling facility.

State-caused permitting delays may be especially problematic in states that have state Environmental Policy Acts (SEPA) modeled after the federal NEPA that require state regulatory agencies to prepare Environmental Assessments and Environmental Impact Statements. Unless and until these SEPA are updated to be consistent with the amended federal NEPA, (especially if H.R. 4776 is enacted), state-based permitting delays and litigation will persist, undermining any of the efficiencies and the expediencies achieved with the newly amended federal NEPA statute and implementing policies. An AI-assisted Google search identified the following list of states with SEPA: California, Connecticut, Georgia, Hawaii, Indiana, Maryland, Massachusetts, Minnesota, Montana, New York, North Carolina, South Dakota, Virginia, Washington, and Wisconsin. From a mining perspective, the SEPA in California, Minnesota, Montana, South Dakota, Washington, and Wisconsin may be the most problematic given the known hardrock mineral potential in these states.

Finally, inadequate staffing and resources in state regulatory agencies with jurisdiction over mining can create substantial delays for proposed mining projects. In such states, the state's permitting process may become the rate-limiting factor in conducting exploration and developing mines.

3. Ms. Struhsacker under the Biden Administration, DOI released an Interagency Working Group report with legislative recommendations.

- a. Would the recommendations provided in that report help increase domestic mining to alleviate our mineral dependence? Or would they have a detrimental impact on domestic mineral development?**

Response:

The short answer is a resounding no. Rather than alleviating our mineral dependence, the recommendations in the Biden Administration’s September 2023 Interagency Working Group’s report, *Recommendations to Improve Mining on Public Lands*, would achieve the exact opposite result. They would reduce mining on public lands, which would have a detrimental impact on domestic mineral development, and would exacerbate our reliance on foreign minerals.

The Interagency Working Group’s report responds to the following Executive branch and Congressional directives:

- 1) The recommendation in the 100-day review in response to President Biden’s February 24, 2021 Executive Order 14017 *Securing America’s Supply Chains*, to form an interagency working group with expertise in mining and environmental permitting to identify gaps in statutes and regulations pertaining to mining; and
- 2) Section 40206 of the Infrastructure Investment and Jobs Act of 2021 (IIJA) that directs the Secretaries of the Interior and Agriculture to submit a report to Congress by November 15, 2022, that “identifies additional measures, including regulatory and legislative proposals, if appropriate, that would **increase the timeliness of permitting activities for the exploration and development of domestic critical minerals.**” (emphasis added.)

In response to both directives, the Department of the Interior (DOI) spearheaded the development of the Interagency Working Group on Mining Regulations, Laws, and Permitting (the IWG) to prepare a report in coordination with the Departments of Agriculture, Commerce, Defense, and State; the U.S. Environmental Protection Agency; the U.S. Army Corps of Engineers; the Council on Environmental Quality; and the National Economic Council. The IWG sought public comments on the content of their report by publishing a Request for Information (RFI) in the Federal Register on March 31, 2022, and by holding three virtual public listening sessions in July 2022.

Numerous mining interests, including the Women’s Mining Coalition, submitted extensive written comments in response to the RFI. In our RFI comments, we expressed concerns that the IWG “playing field” was not level based on the materials DOI presented during the three virtual listening sessions. We noted several errors in these materials including an erroneous statement that mining is exempt from the land use planning process and misinformation insinuating that mining is not already carefully regulated and that it “suffers from other inadequacies.” Given this backdrop, it was no surprise that the IWG’s September 2023 report (which was published almost a year late) included recommendations that would be detrimental to the U.S. mining industry rather than presenting a good-faith effort to respond to the Congressional directive in Section 40206 of the IIJA to submit a report to Congress by November 15, 2022, that “identifies additional measures,

including regulatory and legislative proposals, if appropriate, that would: **“increase the timeliness of permitting activities for the exploration and development of domestic critical minerals.”**

The Executive Summary in the IWG Report describes the need for the U.S. to “address mineral supply chain issues if we are to meet our national climate, infrastructure, and global competitiveness goals...and rapidly and dramatically increase responsible mineral production.” (IWG Report, Page 2). However, many of the recommendations in the IWG Report will impede the Nation’s ability to “dramatically increase mineral production.” The following excerpt from the IWG Report telegraphs its opposition to mining on federal lands:

...efforts to address mineral supply chain challenges are complicated by the General Mining Law of 1872, a Reconstruction Era law promoting free access to minerals that are found on Federal land. The General Mining Law, signed into law by President Ulysses S. Grant, has largely gone unchanged despite 151 years of profound social and scientific change. The Law fails to direct mineral exploration and development towards areas that are appropriate for development and away from sensitive resources. It fails to promote timely development of mineral claims. It fails to promote early and meaningful engagement between mining interests, government agencies, and potentially impacted communities. And it fails to provide the American taxpayer with any direct financial compensation for the value of hardrock minerals extracted from most publicly owned lands. Overlaying the General Mining Law’s promise of free and unfettered access to minerals on Federal land is a complex web of more recent laws enacted to protect air, water, wildlife, communities, and public health. (IWG Report, Page 4).

The most harmful recommendation in the IWG’s report is its position that the self-executing claims system in the Mining Law should be eliminated and a minerals leasing system substituted in its place:

...there is no mechanism to focus development on areas with high mineral values and resource conflicts... IWG believes that positive outcomes would be maximized if Congress established a leasing system for hardrock minerals that is built upon a robust land use planning framework. Such a system should drive development to low-conflict, high-mineral-value areas early in the process, providing more certainty for developers and more protections for sensitive areas and potentially impacted Indian Tribes and communities. (IWG Report, page 96)

The following admission in the report that switching from a claims system to a leasing program “would be complicated and delay mineral development” reveals that the IWG’s motives in developing the report were not responsive to the IJIA directive to streamline permitting for mineral activities in order to increase domestic mineral production. The IWG Report’s critique of the Mining Law and its recommendation to jettison the mining claims system and substitute a leasing system reflects an objective to eliminate the land tenure rights under the Mining Law and to impose more roadblocks to developing mines on the Nation’s public lands:

The IWG concluded that a properly designed and implemented leasing system would best provide access to minerals on Federal lands. **However, the IWG also believes that the transition to such a system could be complex administratively and complicate new exploration and development efforts.** These effects may, in turn, cause short-term delays in efforts to meet clean energy and climate goals. Amending land use plans to better address hardrock mining and ancillary uses would likewise take significant resources to complete. (IWG Report, page 99, emphasis added)

The IWG Report's recommendation to eliminate mining claims and self-initiation and substitute a leasing system is a misguided solution in search of a problem. The Mining Law's mining claims and self-initiation system do not create problems that need to be solved. To the contrary, this system works well for U.S. taxpayers because it transforms private investment into mineral discoveries that pay taxes, employ people in high-wage jobs with benefits, and produce the minerals essential to our economy, national defense, and way of life. Because the federal government does not know where undiscovered mineral deposits are located, self-initiation is essential to the future discovery of these deposits. Under the self-initiation and claims system, mineral exploration and mining companies spend corporate resources to decide where to look for minerals, which allows taxpayers to leverage private-sector knowledge and resources to discover minerals.

In contrast, leasing puts the federal government in charge of deciding where, when, and how companies can explore for minerals and where and for how long miners can operate a mine. As discussed during the September 3rd hearing, and described in detail in my written testimony, the federal leasing system for hardrock minerals on acquired lands has failed to produce a meaningful volume of minerals, which shows that this system cannot attract the level of investment necessary to explore for and develop minerals.

The IWG Report acknowledges (but ignores) comments from the mining industry outlining the severe shortcomings of the existing federal leasing system for minerals:

...the mining industry cautions against adopting a leasing system for hardrock minerals and identified a number of drawbacks to the existing Federal hardrock leasing system. In particular, they point to the small number of mining operations under the hardrock leasing system as evidence that the system has failed. As a mining industry group states:

The U.S. currently has a process for leasing federal hardrock minerals on acquired lands that does not work. Unrealistic spatial and temporal constraints in the federal leasing system impede exploration, are incompatible with hardrock mining timelines, do not generate substantial federal revenue, and do not provide adequate security of tenure. Consequently, there is very little mining on acquired lands despite their mineral potential. (IWG Report, page 42)

The IWG Report naively contends that federal land managers can use the land use planning process to identify areas where mining should and should not occur. For example, the statement: "The

[Mining] Law fails to direct mineral exploration and development towards areas that are appropriate areas for development and away from sensitive resources,” (IWG Report, Page 10) ignores geologic reality. An immutable geologic principle that is completely absent from the IWG Report is that mineral deposits are rare, difficult to find, and cannot be moved to a different location once they have been discovered. They only occur in unique locations where Mother Nature and special geologic conditions have concentrated valuable minerals, and they are only known where geologists have been smart and lucky enough to discover them.

If mining companies and geologists currently knew where all of the Nation’s mineral deposits were located, they would already be exploring, developing, and mining them. As described in my remarks during the September 3rd hearing and discussed in detail in my written testimony, most of the mineral deposits likely to be discovered in the future are buried by unmineralized rocks and are thus hidden from view. They aren’t exposed on the surface as they often were during the previous two centuries when prospectors could look at clues on the ground, including outcroppings of mineralized rocks, to know where to look for minerals. This is why the “Map Baby Map” directive in H.R. 4090 Section 6 is so important. Discovering new, buried mineral deposits will require mapping programs using sophisticated mapping techniques to identify broad areas where mineral deposits may be located.

Given the difficulties in discovering buried mineral deposits, it should be obvious that federal land managers do not have sufficient information to identify places with mineral potential where mining “should occur.” Mining is different from other land uses where land use planning tools can effectively make well-informed land use decisions, like deeming flat sunny areas near transmission lines as suitable for solar development. In the case of minerals and mining, lands need to remain broadly open to mineral exploration and mining – even if those lands may have sensitive resources like valuable habitat. Put in another way, it’s a lot harder and costlier to find a rare and hidden mineral deposit than to locate a sunny area with suitable terrain that is proximal to a transmission line.

Therefore, future conversations about mining “in the right places” must define “the right places” to mean “places where mineral deposits have been, or may be, discovered.” Recognizing that undiscovered mineral deposits are difficult to find and require looking at many prospects with the hopes of finding “the right place,” Section 22 of the Mining Law supports this search by making lands “free and open” to mineral exploration and development:

Except as otherwise provided, all valuable mineral deposits in lands belonging to the United States, both surveyed and unsurveyed, shall 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.

Other federal statutes including the Organic Administration Act of 1897, the Mining and Mineral Poly Act of 1970, the Federal Land Policy and Management Act of 1976, and the Materials and Minerals Policy Research and Development Act of 1980 also wisely reflect the fundamental

geologic realities about the spatially fixed, unmovable nature of mineral deposits. Recognizing this geologic constraint must be the foundation for all future discussions about the U.S. Mining Law and mining regulations. Unfortunately, the IWG Report fails to consider this essential fact about mineral deposits.

The ill-considered suggestion in the IWG Report to eliminate the Mining Law's self-initiation and mining claims system and replace it with a leasing system is just the most recent attempt to gut the land tenure rights in the Mining Law. As noted in my September 3rd verbal testimony and in my written testimony, the Mining Law's land tenure rights have been under attack for the last thirty years, which has discouraged investment and hallowed out the mining industry.

Responding to the current minerals emergency requires an immediate end to this three decades-long assault on the Mining Law to give mining companies the assurances they need to invest in domestic mineral exploration and mine development to discover the new mineral deposits needed to reduce the country's reliance on foreign minerals. It is not uncommon for companies to spend hundreds of millions of dollars exploring a mineral deposit in order to obtain sufficient information to support a final investment decision to build a mine that may cost a billion dollars or more to construct. The longstanding uncertainties about impending changes to the Mining Law that would likely reduce or eliminate security of land tenure, coupled with the lengthy, costly, and litigious permitting process, has led some companies to leave the U.S. and spend their exploration and mine development budgets in other countries that have a more welcoming and less risky investment environment.

As discussed in my testimony and above, expanding H.R. 4090 to respond to the Mining Law directive in Section 4 of Executive Order 14241 "to clarify the treatment of waste rock, tailings, and mine waste disposal under the Mining Act of 1872," and to enact H.R. 1366 to correct the Ninth Circuit Court's misinterpretation of the Mining Law in *Rosemont*, are essential actions that will eliminate the Mining Law uncertainties that have played a significant role in creating the current minerals emergency. An expanded H.R. 4090 and H.R. 1366 would stimulate the types of investment in mineral exploration and development needed to restore America to its rightful place as a leading minerals producer. Enacting the NEPA reforms in H.R. 4776 to remove NEPA as a significant barrier to mineral exploration and development is also crucial in responding to the minerals emergency.

Table 1: USGS Draft Critical Minerals List Includes 33 Byproduct Critical Minerals^{ix}

Mineral commodities for inclusion on the 2025 List of Critical Minerals	Predominately produced as a byproduct	Main host commodities
Aluminum	No.	Lead, gold, other base and precious metals.
Antimony	Yes	
Barite	No.	
Beryllium	No.	Lead, tungsten, copper, tin, molybdenum, fluorspar, zinc. Other rare earths, iron ore, heavy mineral sands (titanium, zirconium).
Bismuth	Yes	
Cerium	Yes	
Cesium	No.	Nickel, copper.
Chromium	No.	
Cobalt	Yes	
Copper	No.	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium).
Dysprosium	Yes	
Erbium	Yes	
Europium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium).
Fluorspar	No.	
Gadolinium	Yes	
Gallium	Yes	Bauxite and zinc. Zinc and coal fly ash. Needle coke (for synthetic graphite).
Germanium	Yes	
Graphite	Yes (for synthetic graphite but not for natural graphite).	
Hafnium	Yes	Zirconium. Other rare earths, iron ore, heavy mineral sands (titanium, zirconium).
Holmium	Yes	
Indium	Yes	
Iridium	Yes	Zinc. Platinum, nickel. Other rare earths, iron ore, heavy mineral sands (titanium, zirconium).
Lanthanum	Yes	
Lead	No.	
Lithium	No.	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium).
Lutetium	Yes	
Magnesium	No.	
Manganese	No.	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium).
Neodymium	Yes	
Nickel	No.	
Niobium	No.	Nickel, platinum.
Palladium	Yes	
Platinum	No.	
Potash	No.	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium).
Praseodymium	Yes	
Rhenium	Yes	
Rhodium	Yes	Molybdenum, copper. Nickel, platinum. Cesium, lithium. Nickel, platinum.
Rubidium	Yes	
Ruthenium	Yes	
Samarium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium). Cobalt, nickel, titanium, zirconium.
Scandium	Yes	
Silicon	No.	
Silver	Yes	Zinc, lead, copper, gold.
Tantalum	No.	
Terbium	Yes	
Thulium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium).
Tin	No.	
Titanium	No.	
Tungsten	No.	Steel slag from vanadiferous iron ore, spent catalysts. Other rare earths, iron ore, heavy mineral sands (titanium, zirconium).
Vanadium	Yes	
Ytterbium	Yes	
Yttrium	Yes	Other rare earths, iron ore, heavy mineral sands (titanium, zirconium).
Zinc	No.	
Zirconium	Yes	

Table 2
U.S. Annual Consumption and Market Value for Some Mini and Micro Critical Minerals
(modified after the Hoover History Lab’s August 11, 2025 working paper)^x

Mini and Micro Byproduct Critical Minerals	U.S. Annual Consumption	Market Value
• Bismuth:	760 tons	\$5.99 million
• Dysprosium:	14 tons	\$4.92 million
• Erbium:	7 tons	\$300,000
• Europium:	6 tons	\$170,000
• Gadolinium:	49 tons	\$2.45 million
• Neodymium:	100 tons	\$8.91 million
• Praseodymium:	70 tons	\$6.06 million
• Samarium:	185 tons	\$460,000
• Terbium:	40,000 tons	\$2.76 million
• Yttrium:	500 tons	\$4.38 million

Endnotes:

ⁱ <https://www.congress.gov/crs-product/R42346>

ⁱⁱ https://www.businessnorth.com/daily_briefing/twin-metals-regains-access-to-mineral-leases-via-interior-department-decision/article_ba02e46c-f358-462e-8cc1-29db31ef8def.html

ⁱⁱⁱ <https://www.blm.gov/sites/default/files/docs/2025-07/BLM-Public-Land-Statistics-2024.pdf>

^{iv} *Center for Biological Diversity v. U.S. Fish and Wildlife Service*, 409 F. Supp. 3d 738 (D. Ariz. 2019), *aff’d*, 33F.3d 1202 (9th Cir. 2022)

^v <https://www.hoover.org/research/multilateral-commercial-stockpile-critical-minerals>

^{vi} <https://www.nyrstar.com/operations/metals-processing/nyrstar-clarksville>

^{vii} <https://rareearthexchanges.com/news/california-establishes-critical-minerals-committee-to-reassess-mining-regulations-boost-domestic-supply/#:~:text=In%20a%20unanimous%209–0.critical%20mineral%20extraction%20and%20refinement.>

^{viii} <https://sagebrushhco.nv.gov/CCS/ConservationCreditSystem/?csrt=8442547388034930990>

^{ix} <https://www.federalregister.gov/documents/2025/08/26/2025-16311/2025-draft-list-of-critical-minerals>

^x Hoover, *op.cit.*