HOUSE COMMITTEE ON
NATURAL RESOURCES
CHAIRMAN BRUCE WESTERMAN

To: Subcommittee on Oversight and Investigations Republican Members
From: Subcommittee on Oversight and Investigations Staff – michelle.lane@mail.house.gov, x6-4137, thomas.knecht@mail.house.gov, X6-8747
Date: July 21, 2023
Subject: Oversight Hearing titled "*Securing Supply Chains: Access to Critical Minerals in the American Southwest*"

The Subcommittee on Oversight and Investigations will hold an oversight hearing titled, "*Securing Supply Chains: Access to Critical Minerals in the American Southwest*" on **Friday, July 21, 2023, at 10:00 a.m. (MST)** at the Goodyear Recreation Center, at the City of Goodyear Recreation Campus, 420 S. Estrella Parkway, in Goodyear, AZ.

Member offices are requested to notify Michelle Lane (michelle.lane@mail.house.gov) and Madeline Bryant (madeline.bryant@mail.house.gov) by 4:30 p.m. on July 17, 2023, if their Member intends to participate in the hearing.

I. KEY MESSAGES

- Mineral exploration, supply, and production is abundant across the United States, including in the American Southwest.
- It is in the best national security, economic, and environmental interests of the United States to maximize the production and development of minerals domestically, rather than source minerals from foreign nations, many of which are adversarial to the United States.
- There is significant and rising demand for minerals in America, and across the world, to support the modern economy, ensure national security, and fuel technological innovation.
- Despite rapidly increasing demand, the Biden administration's policies have only made mineral production and development more challenging and uncertain.
- Harmful regulatory policies and schemes promoted by non-governmental organizations and the Biden administration work toward a "keep it in the ground" mentality, often force American-based companies to source critical minerals in their supply chains from abroad.

II. WITNESSES

- **Mr. Misael Cabrera,** Director, School of Mining and Mineral Resources, University of Arizona, Tucson, AZ
- **Mr. James R. Carlson**, Chairman, Boundary Line Foundation, Chicago, IL
- **Mr. Steve Crim**, Executive Director, Common Sense America, McLean, VA
- **Mr. Jeremy Harrell**, Chief Strategy Office, ClearPath, Washington, D.C.
- **Mr. Craig Wiita**, President and CEO, Del Sol Refining, Inc., Prescott, AZ

III. BACKGROUND

Definition of Mining and Mining's Value to the American Economy

The North American Industry Classification System (NAICS) defines the term *mining* to "include ore extraction, quarrying, and beneficiating (e.g., crushing, screening, washing, sizing, concentrating, and flotation), customarily done at the mine site."[1]

Mineral mining in the United States had a *value added*[2] of $60.6 billion in 2018, which was about 0.3% of total U.S. value added (i.e., GDP).[3] The most recent data on value added contribution to total economic output of minerals mined on *federal lands*[4] is from 2021, where the Department of the Interior (DOI) estimated non-energy minerals had a value add of $24.1 billion.[5] DOI also estimated that non-energy minerals supported 164,100 jobs in 2021.[6]

In 2022, the total value of nonfuel mineral production in the United States, including on non-federal lands, was $98.2 billion.[7]

Mineral Categories: Hardrock, Leasable, and Salable

The current regulatory framework for mining on federal lands places minerals in three categories: hardrock, leasable, and salable.

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[1] *North American Industry Classification System*, EXECUTIVE OFFICE OF THE PRESIDENT, OFFICE OF MANAGEMENT AND BUDGET 102 (United States, 2022), https://www.census.gov/naics/reference_files_tools/2022_NAICS_Manual.pdf.

[2] "Value added is defined as the value of the industry's output to other industries and final users (gross output) less the value of its purchases from other industries (intermediate inputs)." U.S. DEP'T OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS, *Measuring the Nation's Economy: An Industry Perspective*, 3 (2011).

[3] *Value Added by Industry: Mining, Except Oil and Gas*, BUREAU OF ECONOMIC ANALYSIS (Oct. 29, 2019), https://apps.bea.gov/iTable/iTable.cfm?reqid=56&step=2&isuri=1#reqid=56&step=2&isuri=1.

[4] One definition of *federal lands* is "lands owned by the United States, without reference to how the lands were acquired or what Federal agency administers the lands, including surface estate, mineral estate and coal estate, but excluding lands held by the United States in trust for Indians, Aleuts or Eskimos." 43 C.F.R. §3400.0(o), https://www.law.cornell.edu/cfr/text/43/3400.0-5.

[5] Office of Policy Analysis, *U.S. Department of the Interior Economic Report FY 2021*, U.S. DEP'T OF THE INTERIOR (April 30, 2023), https://www.doi.gov/sites/doi.gov/files/fy-2021-doi-econ-report-final.pdf.

[6] *Id*.

[7] U.S. Geological Survey, *Mineral Commodity Summaries 2023*, U.S. DEP'T OF THE INTERIOR (Jan. 31, 2023), https://pubs.usgs.gov/periodicals/mcs2023/mcs2023.pdf.

- *Hardrock*: Hardrock minerals (also called locatable minerals) are any minerals subject to the General Mining Law of 1872 that are not leasable or salable. Hardrock minerals are typically high-value minerals; some examples include copper, iron ore, lead, uranium, gold, and gemstones. Hardrock minerals mined on federal lands are not subject to federal royalties, but a hardrock mineral is a leasable mineral if it is on acquired land.[8]

- *Leasable*: Leasable minerals include minerals such as coal, phosphates, potassium, and sodium.[9] Pursuant to the Mineral Leasing Act of 1920, mining of these minerals on federal land is conducted under a statutory and regulatory framework similar to that of producing oil and natural gas, including lease payments and production royalties. The leasing process may be competitive, and the resulting leases are required to obtain fair market value for the public.[10]

- *Salable*: Salable minerals (or mineral materials) are defined by the Materials Act of 1947 and include low-value, common minerals, and materials (i.e., not considered locatable minerals due to their low value), such as sand, gravel, and pumice.[11] Salable minerals from federal lands are sold to the public at fair market value from community pits, common resource areas, or under more formal arrangements for large quantities. Salable minerals can be obtained for free by some entities, including government entities and non-profit organizations.[12] Unless found in unusually valuable deposits, salable minerals are no longer covered by the General Mining Law of 1872. [13]

The majority of mining in the American Southwest is for hardrock minerals, notably copper, or salable minerals.

The Need for Domestic Mining

Minerals – including copper, lithium, cobalt, and dozens of others – are integral to our modern way of life. They are used in almost all high-tech applications, including smart phones, satellites, and missile defense systems. They are also essential for the function of renewable energy technologies, electric vehicles, and battery storage. Rapid growth in renewable energy technologies is expected to drive mineral demand up by several orders of magnitude, exacerbated by the national goals pledged by the Biden administration and other international organizations.

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[8] Brandon S. Tracy, CONG. RESEARCH SERV., R46278, *Policy Topics and Background Related to Mining on Federal Lands* (Mar. 19, 2020), https://crsreports.congress.gov/product/pdf/R/R46278.
[9] BUREAU OF LAND MANAGEMENT, *About Mining and Minerals*, https://www.blm.gov/programs/energy-and-minerals/mining-and-minerals/about (last visited July 14, 2023).
[10] As determined by the Bureau of Land Management (BLM). For an explanation of how BLM determines fair market value, *see MS-3630 Mineral Material Fair Market Value (FMV) Evaluation (P)* (Sep. 30, 2016), https://www.blm.gov/sites/blm.gov/files/MS%203630.pdf.
[11] *See* Materials Act of 1947, P.L. 80-291. This law has no official short title. This is a commonly used title for the act.
[12] 43 C.F.R. § 3601-3604.
[13] 30 U.S.C. § 611 distinguishes between deposits of common varieties and uncommon varieties.

To achieve net-zero emissions globally by 2050, for instance, the world will require a sixfold increase in mining by 2040.[14]

Foreign Dependence for Minerals, Especially Critical Minerals

The United States has an alarming reliance on foreign nations to meet our demand for critical minerals. While recycling can provide a certain amount of minerals for reuse, today's recycling technologies cannot supply the massive volume of resources we will need, nor can it keep pace with demand, which is predicted to grow exponentially. Today's mineral supply chains are unquestionably controlled by China.[15] This is true for both raw materials and refined products. The U.S. also is alarmingly reliant on Russia for enriched uranium, with American companies paying around $1 billion a year to Russia's state-owned nuclear agency to buy the nuclear fuel that generates more than half of America's emissions-free energy.[16]

Hardrock minerals, including minerals designated as "critical" by the Department of the Interior, are necessary in everything from laptops to medical equipment and military gear. Relying on foreign nations for those products has clear economic and national security implications. Further, the labor and environmental standards in the U.S. are among the best in the world, but the same cannot be said for other mineral suppliers. One of the most notorious examples of labor exploitation in the mining industry is the Congo, which holds about two-thirds of the world's cobalt, but also has well-documented cases of forced and child labor in the mining sector. Unfortunately, despite the Labor Department's designation of lithium-ion batteries as potential products of child or forced labor,[17] the Biden administration recently signed a memorandum of understanding to help build an electric vehicle battery supply chain in the Democratic Republic of the Congo and the Republic of Zambia.[18]

The United States has the choice of how to respond to the exponential demand for minerals – we can support domestic production, where we are certain of our responsible development practices, or we can allow foreign nations with unacceptable labor and environmental standards to dominate the global market. It is in the best national security, economic, and environmental interests of the United States to maximize the domestic production and development of hardrock and critical minerals, including in the American Southwest.

Mining Production and Geology of the American Southwest

The American Southwest has a rich history of mining – particularly for copper; molybdenum, a key agent for steel and iron production; uranium; potash; and salable minerals.

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[14] James Marshall, *Insufficient minerals threaten energy transition —report*, E&E NEWS (May 5, 2021), https://www.eenews.net/greenwire/stories/1063731805.

[15] Ernest Scheyder, *China set to control rare earth supply for years due to processing dominance*, REUTERS, (May 29, 2019), https://www.reuters.com/article/us-china-usa-rareearth-refining/china-set-to-control-rare-earth-supply-for-years-due-to-processing-dominance-idUSKCN1T004J.

[16] Max Bearak, *The U.S. is Paying Billions to Russia's Nuclear Agency. Here's Why*, N.Y. TIMES, (June 14, 2023), https://www.nytimes.com/2023/06/14/climate/enriched-uranium-nuclear-russia-ohio.html.

[17] Jael Holzman and David Iaconangelo, *U.S. shift on child labor may scramble EV sector*, E&E NEWS (Oct. 5, 2022), https://subscriber.politicopro.com/article/eenews/2022/10/05/u-s-shift-on-child-labor-may-scramble-ev-sector-00060305.

[18] David Iaconangelo *U.S. strikes at China with EV battery deal*, E&E NEWS (Jan. 20, 2023), https://subscriber.politicopro.com/article/eenews/2023/01/20/u-s-strikes-at-china-with-ev-battery-deal-00078603.

Mineral Production and Geology of Arizona

Arizona produces the highest value of nonfuel minerals out of any state in America at $10.1 billion, accounting for 10.31% of total production value in America.[19] The principal minerals include copper, molybdenum mineral concentrates, sand and gravel, and stone.[20] The mining industry provides good, high-paying jobs for the region and in Arizona's second and ninth congressional districts "mining, quarrying, and oil and gas extraction" is the second highest paying industry behind the utility industry.[21]

The mining industry in Arizona ranges from surface products – such as salt, clays, turquoise, and quartz – to subsurface products – such as copper, lead, zinc, silver, and gold ore.[22] Notably, Arizona produces nearly 700 million pounds of copper annually.[23]

Source: *The Geography of Arizona*, NETSTATE, https://www.netstate.com/states/geography/az_geography.htm (last visited July 16, 2023).

Arizona can be split up into three main geographical sections: the Colorado Plateau Province, the Basin and Range Province and the Transition Zone. A large portion of the state is tribal, federal or state government land, leaving only a little more than 17 percent of the state as privately-owned land.[24]

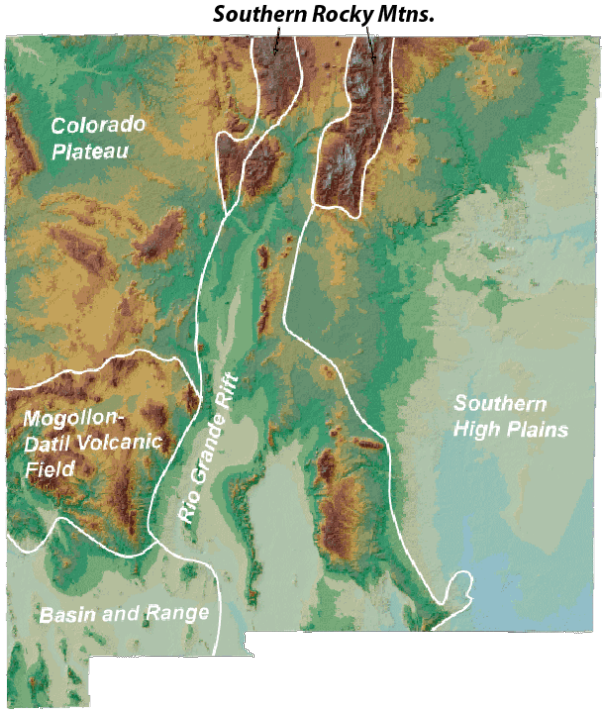
The Colorado Plateau Province is the northern area of Arizona. The resources produced in this area include coal, uranium, and oil. The number of active mines within the Colorado Plateau is few in comparison to the rest of the state. However, uranium deposits in this area are extremely rich, especially within the Breccia Pipe Province on the southwestern corner of the Colorado Plateau.[25] Other metals, including vanadium,

[19] U.S. Geological Survey, *supra* note 7.
[20] *Id*.
[21] *Congressional District 9, AZ &Congressional District 2, AZ*, Data USA, https://datausa.io/profile/geo/congressional-district-9-az?compare=congressional-district-2-az#economy (last visited July 14, 2023).
[22] The Arizona Geological Survey, *Mining in Arizona*, THE UNIVERSITY OF ARIZONA COLLEGE OF SCIENCE (Apr. 2017), https://azgs.arizona.edu/minerals/mining-arizona.
[23] *Copper Production by State*, WORLD POPULATION REVIEW (Apr. 2023), https://worldpopulationreview.com/state-rankings/copper-production-by-state.
[24] Jan C. Rasmussen, *Geological History of Arizona*, ROCKS AND MINERALS (Feb. 2012), https://janrasmussen.com/pdfs/geol_hist_az_Rasmussen_2012%20preprint.pdf.
[25] *See Breccia Pipe Mining on the Arizona Strip and in the Grand Canyon*, NAT'L PARK SERV. (last updated Dec. 23, 2020), https://www.nps.gov/para/learn/nature/breccia-pipe-mining-on-the-arizona-strip-and-in-the-grand-canyon.htm.

silver, lead and zinc have also been produced within the Colorado Plateau.[26] The Transition Zone is a province between the Colorado Plateau Province and the Basin and Range Province. The Transition Zone contains mountain areas and national forests.[27]

The Basin and Range Province is described as having broad valleys due to the large mountains in the southeastern corner of the state. Within this province, every rock type can be found. Two of the largest copper deposits in Arizona lay within this province: porphyry copper and volcanogenic massive sulfide copper. Morenci mine, a porphyry copper deposit found in Arizona's second congressional district, is the largest copper-producing mine in the U.S.[28]

Mineral Production and Geology of New Mexico



Source: *Geologic Tour of New Mexico — Physiographic Provinces*, NEW MEXICO BUREAU OF GEOLOGY & MINERAL RESOURCES, https://geoinfo.nmt.edu/tour/home.cfml?show=provinces (last visited July 16, 2023).

New Mexico produces nearly $1.5 billion worth of nonfuel minerals annually.[29] New Mexico is the third-highest producing state of copper at 178 million pounds a year.[30]

The five major provinces in New Mexico are the Colorado Plateau, Mogollon-Datil Volcanic Field, Basin and Range, the Southern High Plains, and the Rio Grande Rift, which establishes the course of the Rio Grande river. Another notable region is the Southern Rocky Mountains area on either side of the northern Rio Grande Rift.[31]

The Colorado Plateau Province extends into the northwestern corner of New Mexico. The San Juan Basin is included in this area and is a major source of oil, gas, coal, and uranium. Also in this area is the Navajo Reservation and areas managed by the Department of the Interior's Bureau of Indian Affairs.[32] Tribal

[26] *Id*.
[27] Rasmussen, *supra* note 24.
[28] *Five largest copper mines in US in 2020*, MINING TECHNOLOGY (Sep. 21, 2021), https://www.mining-technology.com/marketdata/five-largest-copper-mines-the-us-2020/.
[29] Virginia T. McLemore, *Economic Impact of the Mineral Industry in New Mexico, 2021*, NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES, https://geoinfo.nmt.edu/resources/minerals/impact.html.
[30] *Copper Production by State*, *supra* note 23.
[31] *Geologic Tour of New Mexico—Physiographic Provinces*, NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES (May 4, 2022), https://geoinfo.nmt.edu/tour/home.cfml?show=provinces.
[32] *See New Mexico (Map Federal Lands And Indian Reservations)*, U.S. GEOLOGICAL SURVEY, https://www.worldofmaps.net/en/north-america/new-mexico-usa/map-federal-lands-indian-reservations-new-mexico.htm.

lands cover more than 7 million acres in New Mexico, or about one-tenth of the state.[33]

The Chino and Tyrone mines are among the top-12 largest copper mines in America – respectively producing 56 thousand tonnes (Chino)[34] and 55 thousand tonnes (Tyrone)[35] of ore in 2021 – and are found in the Mogollon-Datil Volcanic Field.[36] The Basin and Range Province within New Mexico includes stone and aggregate material such as sand and gravel.[37]

The well-known Rio Grande Rift is created by the separation of the Colorado Plateau and the Southern High Plains provinces.[38] Gold, silver, copper, and uranium deposits are found in the Rio Grande Rift.[39]

The Southern High Plains, or Great Plains, of eastern New Mexico are formed from young and old sedimentary rock. Caverns, sink holes, and oil and gas deposits can be found in the southeast region of this province in an area known as the Permian Basin.[40] This eastern area of New Mexico is also known for its wind energy production.[41]

Challenges to Mineral Development in the U.S.

Meeting the rising demand for hardrock minerals including critical minerals is a global challenge. The first obstacle is that hardrock minerals are difficult to find in economically viable quantities, often sparsely scattered across a large area.[42] Hundreds of millions of dollars in upfront capital costs are often required for exploration. Before production can even begin in the United States, exploration is followed by almost a decade of permitting due to environmental review requirements under the National Environmental Policy Act and other statutes.[43] It routinely takes over ten years and $1 billion in start-up capital before a mining company produces any product in the U.S.[44] Further, most minerals do not come out of the ground in a useable state and therefore must undergo a lengthy and expensive refining process.

Recent Anti-Mining Actions by the Biden Administration

The Biden administration has made mineral development more challenging and uncertain, despite the administration's stated goals to increase domestic mining to meet rising

[33] *New Mexico State Energy Profile*, U.S. ENERGY INFORMATION ADMIN. (May 18, 2023), https://www.eia.gov/state/print.php?sid=NM.
[34] *10-K Annual Report*, FREEPORT-MCMORAN (Feb. 15, 2022), https://investors.fcx.com/investors/financial-information/sec-filings/sec-filings-details/default.aspx?FilingId=15574448.
[35] *Id*.
[36] *Geologic Tour of the Mogollon-Datil Volcanic Field*, NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES, https://geoinfo.nmt.edu/tour/provinces/mogollon_datil_volcanic_field/home.cfml (last visited July 16, 2023).
[37] *Mineral Resources of New Mexico*, NEW MEXICO BUREAU OF GEOLOGY & MINERAL RESOURCES, https://geoinfo.nmt.edu/resources/minerals/home.html (last visited June 12, 2023).
[38] *See Geologic Tour of the Rio Grande Rift*, NEW MEXICO BUREAU OF GEOLOGY & MINERAL RESOURCES, https://geoinfo.nmt.edu/tour/provinces/rio_grande_rift/home.cfml (last visited July 16, 2023).
[39] Virginia T. McLemore and Robert M. North, *Occurrences of precious metals and uranium along the Rio Grande rift in northern New Mexico*, RIO GRANDE RIFT (NORTHERN NEW MEXICO), (W.S. Baldridge et al. eds. 1984), https://nmgs.nmt.edu/publications/guidebooks/downloads/35/35_p0205_p0212.pdf.
[40] *Geologic Tour of the Southern High Plains*, NEW MEXICO BUREAU OF GEOLOGY & MINERAL RESOURCES, https://geoinfo.nmt.edu/tour/provinces/high_plains/home.cfml (last visited July 14, 2023).
[41] U.S. ENERGY INFORMATION ADMIN., *supra* note 33.
[42] Briefing from the National Mining Association (Mar. 2019).
[43] *Id*.
[44] *Id*.

demand. The Biden administration has shown particular hostility to hardrock mining, despite the significant mineral demands of modern technology and the Biden administration's push towards electrification.

In March 2021, the Biden administration paused previous approval of the Resolution Copper mine in Arizona days before it was to transfer thousands of acres of federal land for the project.[45] The land swap was congressionally approved in which the federal government would have traded 2,422 acres of land to Resolution Copper in exchange for 5,459 acres of other lands owned by the company in southeast Arizona.[46] The proposed Resolution Copper mine was estimated meet 25% of U.S. copper demand.[47] While the Resolution Copper mine is again undergoing federal environmental review, the U.S. Forest Service has told a federal court that it is not sure when it could complete the review and approve the land swap – further casting doubt on the fate of the mine.[48]

In January 2022, the administration canceled[49] two decades-old mineral leases in the Superior National Forest in Minnesota and simultaneously began the withdrawal process of 225,378 acres of mineral-rich land in the same area.[50] These actions specifically targeted a prospective copper-nickel-cobalt mine in the region, operated by Twin Metals Minnesota, despite years of environmental review, a pending Mine Plan of Operations at the Bureau of Land Management,[51] and a myriad of comments and letters from Members of Congress, mineral developers, local residents, union workers, and many other parties stating their support for the project. Unfortunately, the finalized withdrawal was announced on January 26, 2023.[52] The Energy and Mineral Resource Subcommittee held a hearing on May 11, 2023 on two pieces of legislation – H. Con. Res. 34 (Stauber) and H.R. 3195 (Stauber), the Superior National Forest Restoration Act – to end the withdrawal and reinstate the two cancelled mineral leases,

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[45] Hannah Northey, *Biden admin hits pause on Ariz. copper mine*, E&E NEWS (May 22, 2023), https://www.eenews.net/articles/biden-admin-hits-pause-on-ariz-copper-mine/.
[46] *Biden Administration Delays Access to U.S. Critical Mineral Mines*, INST. FOR ENERGY RESEARCH (May 31, 2023), https://www.instituteforenergyresearch.org/renewable/biden-administration-delays-access-to-u-s-critical-mineral-mines/.
[47] *Id*.
[48] Ernest Scheyder, *U.S. Forest Service pauses timeline for Rio Tinto Arizona copper mine*, REUTERS (May 19, 2023), https://www.reuters.com/legal/us-forest-service-pauses-timeline-rio-tinto-arizona-copper-mine-2023-05-19/.
[49] *Leases Canceled, Decision of Tommy Beaudreau, Deputy Secretary of the Interior*, DEP'T OF THE INTERIOR (Jan. 26, 2022), https://www.blm.gov/sites/blm.gov/files/docs/2022-01/2022.01.26%20Twin%20Metals%20Lease%20Cancellation%20Decision_0.pdf.
[50] Press Release, U.S. DEP'T OF THE INTERIOR, *Biden Administration Takes Action to Complete Study of Boundary Waters Area Watershed*, (Oct. 20, 2021), https://www.doi.gov/pressreleases/biden-administration-takes-action-complete-study-boundary-waters-area-watershed.
[51] BLM National NEPA Register, *Twin Metals Project and Preference-Right Lease in the Superior National Forest*, NEPA number: DOI-BLM-Eastern States-0030-2020-0006-EIS, BUREAU OF LAND MANAGEMENT (last updated Jan. 27, 2022), https://eplanning.blm.gov/eplanning-ui/project/1503233/510.
[52] *Public Land Order No. 7917 for Withdrawal of Federal Lands; Cook, Lake, and Saint Louis Counties, MN*, 88 F.R. 6308, BUREAU OF LAND MANAGEMENT (Jan. 31, 2023), https://www.federalregister.gov/documents/2023/01/31/2023-01969/public-land-order-no-7917-for-withdrawal-of-federal-lands-cook-lake-and-saint-louis-counties-mn.

respectively.[53] These bills were subsequently passed by the Committee on Natural Resources on May 17, 2023.

In June 2023, the Biden Administration obstructed another domestic mining project in Minnesota, the NewRange Copper Nickel mine.[54] The U.S. Army Corps of Engineers originally awarded a permit for NewRange Copper Nickel in 2019. In March 2021, at the request of Biden's Environmental Protection Agency, the U.S. Army Corps of Engineers suspended the permit, then revoked the suspended permit for further studies in June 2023.[55] The Energy and Mineral Resources Subcommittee held a field hearing on May 2, 2023 in Mountain Iron, Minnesota to discuss the vast mineral wealth of the region including the NewRange and Twin Metals projects.[56] This field hearing included a site tour of the prospective NewRange mine.

Also in June 2023, the Biden administration withdrew 336,404 acres of public land in New Mexico from mineral development when it created a 10-mile radius buffer zone around the Chaco Cultural Heritage site.[57] The withdrawal was condemned by the Navajo Nation Council for jeopardizing the economic future of the area, including the immediate impact of 5,600 Navajo allottees.[58] It is estimated that the twenty-year withdrawal could affect 22,000 allottees, cost current allottees $6.2 million a year in royalties and reduce royalties to Navajo Nation members by $194 million[59] over the next 20 years. The economic impacts of the withdrawal are calamitous for the Navajo Nation, which has a poverty rate of 40%, nearly triple the poverty rate of the United States as a whole.[60] In response to the administration's withdrawal, Representative Elijah Crane (AZ-02) introduced H.R. 4374, the *Energy Opportunities for All Act*,[61] which would nullify the withdrawal. On July 13, 2021, the Committee on Natural Resources'

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[53] *Legislative Hearing on H. Con. Res. 34 and H.R. __, Superior National Forest Restoration Act Before the Subcomm. on Energy and Mineral Resources of H. Comm. on Natural Resources*, 118th Cong. (May 11, 2023), https://naturalresources.house.gov/calendar/eventsingle.aspx?EventID=413192.

[54] *Biden Revokes Permit for the NewRange Copper Nickel Mine*, INSTITUTE FOR ENERGY RESEARCH (June 12, 2023), https://www.instituteforenergyresearch.org/regulation/biden-revokes-permit-for-the-newrange-copper-nickel-mine/.

[55] *Id*.

[56] *Examining the Mineral Wealth of Northern Minnesota Before the Subcomm. on Energy and Mineral Resources of the H. Comm. on Natural Resources*, 118th Cong. (2023), https://naturalresources.house.gov/calendar/eventsingle.aspx?EventID=413106.

[57] *Public Land Order No. 7923 for Public Lands Withdrawal Surrounding Chaco Culture National Historical Park Boundary; San Juan, Sandoval, and McKinley Counties, New Mexico*, 88 F.R. 37266, BUREAU OF LAND MANAGEMENT (June 7, 2023), https://www.federalregister.gov/documents/2023/06/07/2023-12158/public-land-order-no-7923-for-public-lands-withdrawal-surrounding-chaco-culture-national-historical#:~:text=SUMMARY%3A,subject%20to%20valid%20existing%20rights.

[58] Arlyssa D. Becenti, *Navajo officials say a mining and drilling ban at Chaco Canyon will hurt local residents*, AZCENTRAL (June 7, 2023), https://www.azcentral.com/story/news/local/arizona/2023/06/07/navajo-officials-say-chaco-canyon-drilling-ban-hurts-local-residents/70295583007/.

[59] Letter from Kathleen M. Sgamma to Sarah Scott, Bureau of Land Management, *Proposed Chaco Area Withdrawal*, WESTERN ENERGY ALLIANCE (Dec. 9, 2020), https://www.westernenergyalliance.org/uploads/1/3/1/2/131273598/western_energy_alliance_-_chaco_withdrawal_ea.pdf.

[60] *Navajo Nation Reservation*, FEDERAL RESERVE BANK OF MINNEAPOLIS, https://www.minneapolisfed.org/indiancountry/resources/reservation-profiles/navajo-nation-reservation (last visited July 14, 2023).

[61] *To nullify Public Land Order No. 7923, withdrawing certain land in San Juan County, New Mexico, from mineral entry*, H.R. 4374, 118th Cong. (2023), https://www.congress.gov/bill/118th-congress/house-bill/4374/text?s=2&r=2&q=%7B%22search%22%3A%5B%22%22%5D%7D.

Subcommittee on Energy and Mineral Resources held a legislative hearing on H.R. 4374,[62] which featured Navajo Nation President Buu Nygren and a Navajo tribal member and allottee, Delora Hesuse. In the hearing, President Nygren explained how the administration did not notify the Navajo Nation prior to the withdrawal and that they found out through the news. Ms. Hesuse highlighted how the withdrawal would have a devastating impact on Navajo allottees, who rely on the income the minerals generate to meet basic needs.[63]

Overall, the American people and American energy production are experiencing crisis from rising prices, foreign dependence, and years-long delays due to a fractured and redundant regulatory process exacerbated by President Biden's anti-mining policies.

Critical Mineral and Critical Material Designations by the Department of the Interior and Department of Energy

There are various classifications and lists of critical minerals, but E.O. 13817, *A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals*, provides a working definition for U.S. government action:

> (i) a non-fuel mineral or mineral material essential to the economic and national security of the United States, (ii) the supply chain of which is vulnerable to disruption, and (iii) that serves an essential function in the manufacturing of a product, the absence of which would have significant consequences for our economy or our national security.[64]

The Energy Act of 2020, which was signed into law as part of the Fiscal Year 2021 omnibus government funding bill,[65] requires the federal government to issue a list of critical minerals every three years.[66] The Secretary of the Interior is granted wide latitude to define critical minerals as any mineral, element, substance, or material designated as critical by the Secretary of the Interior acting through the Director of the U.S. Geological Survey (USGS).[67] Using this definition, in 2022, the Secretary of the Interior published a list of 50 critical

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[62] *Legislative Hearing on H.R. 4374 Subcomm. on Energy and Mineral Resources of H. Comm. on Natural Resources*, 118th Congress (July 13, 2023), https://naturalresources.house.gov/calendar/eventsingle.aspx?EventID=414539.
[63] *Id*.
[64] EXEC. ORDER NO. 13817, (Dec. 20, 2017), https://www.federalregister.gov/documents/2017/12/26/2017-27899/a-federal-strategy-to-ensure-secure-and-reliable-supplies-of-critical-minerals.
[65] Jigar Shah, *Getting to Know LPO: Energy Act of 2020, BIL Implementation*, DEP'T OF ENERGY (Nov. 10, 2022), https://www.energy.gov/lpo/articles/getting-know-lpo-energy-act-2020-bil-implementation#:~:text=The%20Energy%20Act%20of%202020%20was%20passed%20as%20part%20of,President%20Biden%20signed%20the%20BIL.
[66] Public Law No. 116-260, Title VII § 7002, https://www.govinfo.gov/content/pkg/PLAW-116publ260/pdf/PLAW-116publ260.pdf.
[67] 30 U.S. Code § 1606, http://uscode.house.gov/view.xhtml?req=(title:30%20section:1606%20edition:prelim)#:~:text=(A)%20In%20general,Secretary%20under%20subsection%20(c).

minerals[68] that were described as playing a "significant role in our national security, economy, renewable energy development and infrastructure."[69]

Separately, a "critical material" is defined as anything the Secretary of the Interior identifies as a critical mineral, or:

> Any non-fuel mineral, element, substance, or material that the Secretary of Energy determines: (i) has a high risk of supply chain disruption; and (ii) serves an essential function in 1 or more energy technologies, including technologies that produce, transmit, store, and conserve energy.[70]

This framework of classifications creates public confusion surrounding the designations. For example, while copper was not listed as a critical mineral by the Secretary of the Interior and the USGS, the Department of Energy classifies copper as a critical material.[71]

Role of Copper in the Modern Economy

Copper has historically, and continues to be, an integral component of the global and domestic economy, and its importance will increase in the years ahead. Copper can be traced in everyday items from a coffeemaker to a cell phone—in fact most appliances that Americans interact with on a daily basis contain at least some amount of copper.[72]

In addition to daily domestic life, copper plays a significant role in our national security and its absence would be calamitous to public safety. Copper serves as a cornerstone for anything that uses electricity. Copper is used in vessels, ships, and aircraft used by America's armed forces.[73] A report from S&P Global Inc. found that copper scarcity and projected shortfalls will place unprecedented strain on supply chains that threaten global stability and national security.[74] Copper's integral role in national security is not new. As far back as 1949, copper was identified as one of the critical minerals whose absence would "constitute an Achilles' heel" to any modern war effort.[75]

Copper is a major component of major infrastructure projects, including those related to the electrical grid, new water and sewer pipelines, as well as routine building and structure

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[68] U.S. Geological Survey, *2022 Final List of Critical Minerals*, DEP'T OF THE INTERIOR, 87 F.R. 10381 (Feb. 24, 2022), https://www.federalregister.gov/documents/2022/02/24/2022-04027/2022-final-list-of-critical-minerals.
[69] Jason Burton, *U.S. Geological Survey Releases 2022 List of Critical Minerals*, U.S. GEOLOGICAL SURVEY (Feb. 22, 2022), https://www.usgs.gov/news/national-news-release/us-geological-survey-releases-2022-list-critical-minerals.
[70] 30 U.S. Code § 1606, *supra* note 67.
[71] Critical Minerals and Materials Program, *What Are Critical Materials and Critical Minerals?*, DEP'T OF ENERGY, https://www.energy.gov/cmm/what-are-critical-materials-and-critical-minerals (last visited July 14, 2023).
[72] *The Impact of Copper*, COPPER DEVELOPMENT ASSOCIATION, INC. (May 23, 2023) https://copper.org/images/home/features/cda-perceptions-infographic-letter-size-v3pdf.pdf.
[73] *Copper Supports our Troops*, NATIONAL MINING ASSOCIATION (June 7, 2021) https://nma.org/2021/06/07/copper-supports-our-troops-2/.
[74] *The Future of Copper: Will the Looming supply gap short-circuit the energy transition?*, S&P GLOBAL (2022) https://www.spglobal.com/marketintelligence/en/mi/info/0722/futureofcopper.html.
[75] James Boyd, *Strategic Resources for National Security*, THE MILITARY ENGINEER 261-263 (July-Aug. 1949), https://www.jstor.org/stable/44564718.

upgrades.[76] The mineral is also utilized heavily in a variety of other sectors from healthcare to clean energy resources to the transportation sector.[77]

According to the USGS, in 2022, the recoverable copper content of U.S. mine production was an estimated 1.3 million tons, with an estimated value of $11 billion.[78] Arizona was the leading copper producing state.[79] With copper being the leading mineral, the Arizona Mining Industry reported in 2020 that $1.5 billion in direct income and 13,759 jobs were supported by the industry in the state.[80]

The U.S. share of copper consumption that is met by net imports has increased from 33% in 2018, to 44% in 2021, and 41% in 2022. According to trade data from USGS, in the first half of 2022, the net import reliance stood at 48%.[81] As of 2021, Russia, China, Iran, and North Korea now account for half of all non-U.S. global refined copper production.[82]

The International Energy Agency (IEA), the intergovernmental organization tasked with developing energy policy and cooperation between America, Europe, and western allies, describes copper as the "cornerstone for all electricity-related technologies."[83]

The administration's push to achieve net-zero carbon emissions by 2050 will strain copper supplies. S&P Global Inc. found that to meet the midcentury climate goals established by the U.S., European Union, and other nations, the worldwide copper demand to make electric vehicles, batteries, wind and solar components, and power lines and transformers will need to double to 50 million tons a year by 2035.[84] However, the IEA projects a 20% shortfall in international copper supply by 2030,[85] a shortfall that will become more pronounced thereafter. At the same time, copper mining outside the U.S. is at significant risk of declining resource quality and, has higher exposure to climate risks.[86] Hence, the IEA declared that how policymakers respond to the rising mineral demand will determine whether copper and other critical minerals "are a vital enabler for clean energy transitions, or a bottleneck in the process."[87]

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[76] COPPER DEVELOPMENT ASSOCIATION, *supra* note 72.
[77] *Id*.
[78] U.S. Geological Survey, *Mineral Commodities Summary – Copper*, DEP'T OF THE INTERIOR (Jan. 2023), https://pubs.usgs.gov/periodicals/mcs2023/mcs2023-copper.pdf.
[79] *Id*.
[80] *Arizona Mining…2020 Economic Impact*, ARIZONA MINING ASSOCIATION, https://www.azmining.com/wp-content/uploads/2021/09/AMA-2020-Economic-QUICKFACTS.pdf (last visited July 16, 2023).
[81] *Mineral Industry Surveys*, U.S. GEOLOGICAL SURVEY, https://www.usgs.gov/centers/national-minerals-information-center/mineral-industry-surveys (last visited July 14, 2023).
[82] Ian Littlewood, *Add Copper to the Critical Mineral List Now*, COPPER DEVELOPMENT ASSOCIATION INC. (2022), https://copper.org/copperiscritical.org/report/CDA_Copper_Critica_lMinerals_full_report.pdf.
[83] *The Role of Critical Minerals in Clean Energy Transitions: Executive Summary*, INTERNATIONAL ENERGY AGENCY, https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions/executive-summary (last visited July 14, 2023).
[84] S&P GLOBAL, *supra* note 77; *see also* Jeffrey Tomich, *Copper demand an obstacle for clean* energy, report says, E&E NEWS (July 15, 2022), https://subscriber.politicopro.com/article/eenews/2022/07/15/copper-demand-an-obstacle-for-clean-energy-report-says-1-00045933.
[85] INTERNATIONAL ENERGY AGENCY, *supra* note 83.
[86] *Id*.
[87] *Id*.

Summary

It is imperative for U.S. government agencies to recognize copper's integral and irreplaceable role in our economy and national security by permitting new mines and refining capacity in the U.S.

It is in the best national security, economic, and environmental interests of the United States to maximize the production and development of hardrock minerals in the American Southwest. There is significant and rising demand for minerals in America, and across the world, to support the modern economy, ensure national security, and fuel technological innovation. Despite rising demand and stated policy goals, the Biden administration has made mineral development more challenging and uncertain. Ensuring that the United States, including the American Southwest, is a leading mineral producer will benefit our nation and our allies for decades to come.