"THE LONG OVERDUE NEED TO REFORM THE MINING LAW OF 1872," INCLUDING THE FOLLOWING BILL, AND OTHER RELATED MEASURES: H.R. 2579, THE HARDROCK LEASING AND RECLAMATION ACT OF 2019

LEGISLATIVE HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCES

OF THE

COMMITTEE ON NATURAL RESOURCES
U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED SIXTEENTH CONGRESS

FIRST SESSION

Thursday, May 9, 2019

Serial No. 116–15

Printed for the use of the Committee on Natural Resources

Available via the World Wide Web: http://www.govinfo.gov
or
Committee address: http://naturalresources.house.gov

U.S. GOVERNMENT PUBLISHING OFFICE
36–319 PDF WASHINGTON : 2019

COMMITTEE ON NATURAL RESOURCES

RAÚL M. GRIJALVA, AZ, *Chair*
DEBRA A. HAALAND, NM, *Vice Chair*
GREGORIO KILILI CAMACHO SABLAN, CNMI, *Vice Chair, Insular Affairs*
ROB BISHOP, UT, *Ranking Republican Member*

Grace F. Napolitano, CA
Jim Costa, CA
Gregorio Kilili Camacho Sablan, CNMI
Jared Huffman, CA
Alan S. Lowenthal, CA
Ruben Gallego, AZ
TJ Cox, CA
Joe Neguse, CO
Mike Levin, CA
Debra A. Haaland, NM
Jefferson Van Drew, NJ
Joe Cunningham, SC
Nydia M. Velázquez, NY
Diana DeGette, CO
Wm. Lacy Clay, MO
Debbie Dingell, MI
Anthony G. Brown, MD
A. Donald McEachin, VA
Darren Soto, FL
Ed Case, HI
Steven Horsford, NV
Michael F. Q. San Nicolas, GU
Matt Cartwright, PA
Paul Tonko, NY
Vacancy

Don Young, AK
Louie Gohmert, TX
Doug Lamborn, CO
Robert J. Wittman, VA
Tom McClintock, CA
Paul A. Gosar, AZ
Paul Cook, CA
Bruce Westerman, AR
Garret Graves, LA
Jody B. Hice, GA
Aumua Amata Coleman Radewagen, AS
Daniel Webster, FL
Liz Cheney, WY
Mike Johnson, LA
Jenniffer González-Colón, PR
John R. Curtis, UT
Kevin Hern, OK
Russ Fulcher, ID

David Watkins, *Chief of Staff*
Sarah Lim, *Chief Counsel*
Parish Braden, *Republican Staff Director*
http://naturalresources.house.gov

SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCES

ALAN S. LOWENTHAL, CA, *Chair*
PAUL A. GOSAR, AZ, *Ranking Republican Member*

Mike Levin, CA
Joe Cunningham, SC
A. Donald McEachin, VA
Diana DeGette, CO
Anthony G. Brown, MD
Jared Huffman, CA
Matt Cartwright, PA
Raúl M. Grijalva, AZ, *ex officio*

Doug Lamborn, CO
Bruce Westerman, AR
Garret Graves, LA
Liz Cheney, WY
Kevin Hern, OK
Rob Bishop, UT, *ex officio*

CONTENTS

LEGISLATIVE HEARING ON "THE LONG OVERDUE NEED TO REFORM THE MINING LAW OF 1872," INCLUDING THE FOLLOWING BILL, AND OTHER RELATED MEASURES: H.R. 2579, THE HARDROCK LEASING AND RECLAMATION ACT OF 2019

Thursday, May 9, 2019
U.S. House of Representatives
Subcommittee on Energy and Mineral Resources
Committee on Natural Resources
Washington, DC

The Subcommittee met, pursuant to notice, at 10:05 a.m., in room 1334, Longworth House Office Building, Hon. Alan Lowenthal [Chairman of the Subcommittee] presiding.

Present: Representatives Lowenthal, Cunningham, DeGette, Grijalva (ex officio); Gosar, Graves, and Hern.

Also present: Representatives Stauber and Amodei.

Dr. LOWENTHAL. The Subcommittee on Energy and Mineral Resources will come to order. The Subcommittee is meeting today to hear testimony on the long overdue need to reform the Mining Law of 1872, and on H.R. 2579, we are going to hear Chairman Grijalva's Hardrock Leasing and Reclamation Act of 2019.

Under Committee Rule 4(f), any oral opening statements at hearings are limited to the Chair and to the Ranking Minority Member or their designee. I am going to ask unanimous consent that all other Members' opening statements be made part of the hearing record if they are submitted to the Subcommittee Clerk by 5 p.m. today. Hearing no objection, so ordered.

STATEMENT OF THE HON. ALAN S. LOWENTHAL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Dr. LOWENTHAL. First, I would like to welcome our witnesses, and thank you for traveling so far today to be before us.

The Mining Law of 1872 is one of the most obsolete laws that are still on the books. It comes to us from a time of the Wild West, when Civil War veterans would head West and try to make their fortunes with a pick, a shovel, a donkey, and a dream.

But there are no more picks, shovels, or donkeys in today's mining. Instead, there are earth-moving trucks weighing over 350 tons and standing nearly three stories tall, and the dreams are those of CEOs in boardrooms in Vancouver, Sydney, and Santiago, Chile.

In 1872, land was plentiful and cheap, and President Ulysses S. Grant's goal was to give it away as fast as possible and encourage people to settle the West, paying little attention to the original

inhabitants of those areas. The Mining Law is designed to give land and minerals away for next to nothing. The operating responsibility was an afterthought, if it was even considered at all.

The government effectively posted a sign on our public lands saying, "Free gold. Free silver. Free copper. Free land. No royalties or cleanup required." Mining companies took advantage, extracting over $300 billion of precious metals from public land without paying a single cent in royalties to the American people and without bothering to clean up their legacy of half a million abandoned mines.

I would like to introduce a little breaking news. You have heard it here first. This was done by President Ulysses Grant to settle the West, as I pointed out. This may be a surprise to everyone here on the panel and in the office, but the West has been settled. Yes, there is no doubt that the West has been settled. So, we now need to begin to look at what we need to do now.

It is no surprise that mining companies do not want and oppose any reform. Who would want to give up a 147-year-old free ride?

Yet, as we all know, many things have changed in the past century and a half. Hardrock mining in America now has to comply with the Federal Land Policy and Management Act, the National Environmental Policy Act, and the Clean Water Act, among others.

But none of these laws help land managers plan for the specific environmental challenges that come with hardrock mining, or address the exalted status that mining has managed to maintain on our public lands. Half a million abandoned hardrock mines litter the country, posing safety threats and polluting thousands of miles of rivers and streams with toxic runoff. Fifty million gallons of toxic wastewater, the equivalent of 2,000 tanker trucks, flows out of hardrock mines every single day.

Congress tackled this issue for coal mines over 40 years ago. The industry was asked to pay a small fee for each ton of mined coal, and that money goes to remediating the harmful legacy of countless abandoned coal mines. There is no similar program for cleaning up abandoned hardrock mines. That can only happen if the mining industry steps up and meaningfully deals with its own long history of pollution, just as the coal industry has done.

There are many ways to raise that revenue, and one option would be a long-needed and overdue royalty on hardrock mining. For nearly a century, the American people have received a royalty for oil, gas, coal, potash, soda ash, and many other resources that are extracted from public lands. It should be no different for gold, silver, copper, or any other mineral.

We can establish an abandoned mine land fund so that our public lands are safe and accessible for generations to come. We can reaffirm that there are places mining shouldn't happen, where the impacts on public health, the environment, or places sacred to tribes will be too great. And we can finally get rid of this idea that mining is always the highest and best use of our public lands.

The mining industry says everything is working just fine. Yet, in the same breath they complain that the permitting system is completely broken. I say to them, that is because there is no permitting system, just modern environmental laws piled on top of a creaky, rotting 150-year-old foundation.

They will argue that we need more mines to cut our import dependence or find the minerals needed to realize our clean energy future. But they need to acknowledge that this can't happen and will not happen if they insist on creating a future for mining using a relic of the distant past. The Mining Law of 1872 must go.

[The prepared statement of Dr. Lowenthal follows:]

PREPARED STATEMENT OF THE HON. ALAN S. LOWENTHAL, CHAIRMAN, SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCES

First, I would like to welcome to our witnesses and thank you for traveling so far to be here today.

The Mining Law of 1872 is one of the most obsolete laws still on the books. It comes to us from a time of the Wild West, when Civil War veterans would head West and try to make their fortune with a pick, a shovel, a donkey, and a dream.

But there are no picks, shovels, or donkeys in today's mining. Instead there are earth-moving trucks weighing over 350 tons and standing nearly three stories tall. And the dreams are those of C-E-Os in boardrooms in Vancouver, Sydney, and Santiago, Chile.

In 1872, land was plentiful and cheap, and President Ulysses S. Grant's goal was to give it away as fast as possible and encourage people to settle the West, paying little attention to the original inhabitants of those areas. The Mining Law is designed to give land and minerals away for next to nothing. Operating responsibly was an afterthought if it was even considered at all.

The government effectively posted a sign on our public lands saying: "Free gold! Free silver! Free copper! Free land! No royalties or cleanup required!"

Mining companies took advantage, extracting over $300 billion of precious metals from public land without paying a cent in royalties to the American people, and without bothering to clean up their legacy of half a million abandoned mines.

We are no longer in the mid-19th century. And as a Californian, let me assure you: the West is settled!

It's no surprise that the mining industry opposes any reform. Who would want to give up a 147-year-old free ride?

Yes, some things have changed in the past century and a half. Hardrock mining in America has to comply with the Federal Land Policy and Management Act, the National Environmental Policy Act, and the Clean Water Act, among others.

But none of those laws help land managers plan for the specific environmental challenges that come with hardrock mining, or address the exalted status that mining has managed to maintain on our public lands. Half-a-million abandoned hardrock mines litter the country, posing safety threats and polluting thousands of miles of rivers and streams with toxic runoff.

Fifty million gallons of toxic wastewater—the equivalent of 2,000 tanker trucks—flows out of hardrock mining sites every day.

Congress tackled this issue for coal mines over 40 years ago. Industry was asked to pay a small fee for each ton of mined coal, and that money goes to remediating the harmful legacy of countless abandoned coal mines.

There is no similar program for cleaning up abandoned hardrock mines.

That can only happen if the mining industry steps up and meaningfully deals with its own long history of pollution, just like the coal industry has done.

There are many ways to raise that revenue, and one option would be a long-overdue royalty on hardrock mining. For nearly a century, the American people have received a royalty for oil, gas, coal, potash, soda ash, and many other resources that are extracted from public lands. It should be no different for gold, silver, copper, or any other mineral.

We can establish an abandoned mine land fund so that our public lands are safe and accessible for generations to come. We can reaffirm that there are places mining shouldn't happen, where the impacts on public health, the environment, or places sacred to tribes will be too great. And we can finally get rid of this idea that mining is always the highest and best use of our public lands.

The mining industry says everything is working just fine. Yet, in the same breath they complain that the permitting system is completely broken. I say to them that this is because there is no permitting system, just modern environmental laws piled on top of a creaky, rotting, 150-year-old foundation.

They will argue that we need more mines to cut our import dependence, or find the minerals needed to realize our clean energy future. But they need to acknowledge that this can't happen, and that this won't happen, if they insist on creating a future for mining using a relic of the distant past. The Mining Law of 1872 must go.

Dr. LOWENTHAL. With that, I look forward to the testimony from our witnesses. And I will now recognize Ranking Member Gosar for his opening statement.

STATEMENT OF THE HON. PAUL A. GOSAR, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ARIZONA

Dr. GOSAR. Thank you, Mr. Chairman, and thanks for yielding time. And thanks to all the witnesses for being here today.

Today, we are going to consider the Hardrock Leasing and Reclamation Act of 2019. This misinformation and misguided legislation seeks to transform the general Mining Law of 1872. Specifically, this bill would convert the existing mining claim system to a leasing system, and impose an 8 percent gross royalty on existing operations and a 12.5 percent gross royalty on new mining operations on Federal lands.

While my colleagues on the other side claim that they are simply seeking to update an outdated statute, in fact this legislation is designed to cripple the domestic mining industry by making new and existing operations unprofitable. Without a doubt, this legislation would drive mining investment away from the United States, furthering our dependence on foreign imports and threatening the U.S. supply chain for countless industries and products.

Hardrock mining is critical to our national security, manufacturing, and infrastructure sectors, and even renewable technologies. If you will bring up Slide 1 showing the components of a cell phone.

[Slide.]

In order to make missiles, modern weapon systems, solar panels, wind turbines, batteries for electric vehicles, smartphones, tablets, and even smart home devices, you must first mine and process hardrock minerals. For example, electric vehicles require large amounts of lithium, cobalt, graphite, and copper. Presently, the United States is dependent on foreign imports for each of these minerals. Would you please show Slide 2.

[Slide.]

According to the U.S. Geological Survey, the United States is currently 100 percent import-reliant on 18 minerals and more than 50 percent reliant on another 30 minerals. Please push Slide 3.

[Slide.]

Look at the corresponding change. As you see here, we have greatly increased our dependency on foreign minerals, particularly from China, which has happened over the last two decades. In the previous slide, if you looked—can I go back to the previous slide—way down at the very bottom, it shows "rare earth." This is one of our technology marvels that we need. It is at 2 percent that we were relying on everybody else.

Now let's go back to the previous slide. It is 100 percent. China dictates a whole marketplace. That is why you have seen batteries

move over to China. They dictate the whole process in this aspect. We are import-reliant for 14 of the 15 minerals required in most renewable energy technologies, and demand will soon outpace supply. Just last week at a conference here in DC, Tesla warned that a lack of investment in the mining sector is creating a shortage of key minerals needed to build electric vehicles.

My colleagues say that the Mining Law is antiquated and that companies are free to mine anywhere they would like without paying their fair share. However, hardrock mining must comply with the same environmental statutes and regulations as all other industries. In fact, the general Mining Law has been amended several times to require additional environmental protections and establish fees for mining claims.

In addition to state and local laws, hardrock mining operations must comply with at least three dozen Federal environmental laws and regulations, including FLPMA, NEPA, the Endangered Species Act, the Clean Water Act, the Clean Air Act, the National Historic Preservation Act, just to name a few. Each of these laws ensures that mining operations protect public health, safety, as well as the environment.

While my colleagues are quick to claim that this industry can mine on our federally owned land free of charge, that is not the case. In Fiscal Year 2017, the industry paid $65 million in mining claim fees and 40 to 50 percent of all earnings in taxes, fees, and state royalties.

My colleagues' proposal to convert the current claim system to a leasing system would drive away investment from the domestic mining industry. Under a leasing system, the Federal Government can cancel a lease for political reasons, even after significant up-front investment has been made in exploration and before any resources have been recovered.

In fact, that is actually trying to happen right now. My colleagues on the other side are trying to dispute a claim that has already been settled. Hardrock mining exploration involves significant financial risk, as it can take decades to locate a deposit that is economical to mine. According to the USGS, only 1 in 1,000 potential targets for a potential operation actually become a mine. The average timeline from concept to discovery is 10 years, and the average permitting timeline is 7 to 10 years.

Under this legislation, a company would need to negotiate renewal of the lease before permitting has even concluded. Given that the average up-front investment before mining even begins is $244 million, the arbitrary lease renewal requirements would undoubtedly curtail investment in any new mines.

Because most of the $244 million is spent on environmental compliance imposing a system that encourages companies to race toward production under the new threat of a lease cancellation, that would pose a greater risk to the environment. Further, the royalty rates suggested in this draft legislation are designed not to generate fair return to the taxpayers, but to put the domestic mining industry out of business. Under this legislation, there would be no mining industry to pay for the abandoned mine cleanup.

At a time when we are facing shortfalls in critical minerals like lithium and copper, we should be focusing on streamlining the permitting process to bolster domestic production, not enacting legislation that can put the U.S.-based industry out of business. The foolish policies in this legislation would only further exacerbate our reliance on China and other nations for minerals we need for our economic and national security.

Before I turn back over the microphone, I have several things that I want to submit for the record. We have "Mining the Future" that would be submitted into the record. We also have a summary from Tesla to be submitted into the record.

Dr. LOWENTHAL. So ordered.

Dr. GOSAR. I also have a letter from the Arizona Chamber of Commerce to hand out. This would have an impact of $4.29 billion and 44,000 direct and indirect jobs will be associated with impact because of this bill. I would like to have that submitted for the record.

Dr. LOWENTHAL. It will be submitted for the record. So ordered.

Dr. GOSAR. I would like to have the timeline in regards to what it takes, a hardrock mining timeline from before production, to be placed in the record.

Dr. LOWENTHAL. So ordered.

Dr. GOSAR. I also have "China Resource Strategy: The Extortive Aspect," in which China "One Belt, One Road" is nominating all resources around the world and where they are at for the record.

Dr. LOWENTHAL. So ordered.

Dr. GOSAR. I thank the Chairman and yield back.

[The information follows:]

Submissions for the Record by Rep. Gosar

Exclusive: Tesla expects global shortage of electric vehicle battery minerals-sources

By Ernest Scheyder
Reuters
May 3, 2019

WASHINGTON (Reuters)—Tesla Inc expects global shortages of nickel, copper and other electric-vehicle battery minerals down the road due to underinvestment in the mining sector, the company's global supply manager for battery metals told an industry conference on Thursday, according to two sources.

The company, a major minerals consumer, has rarely talked publicly about its views on the metals industry. Copper, nickel, lithium and related minerals are key components used to make electric-vehicle batteries and other parts.

Sarah Maryssael, Tesla's global supply manager for battery metals, told a closed-door Washington conference of miners, regulators and lawmakers that the automaker sees a shortage of key EV minerals coming, according to the sources.

According to a Tesla spokesman, the comments were industry-specific and referring to the long-term supply challenges that may occur with regards to these metals.

The copper industry has suffered from years of underinvestment, and it is now working feverishly to develop new mines and bring fresh supply online as the electrification trend envelops the global economy. Freeport-McMoRan Inc, the world's largest publicly traded copper producer, is expanding in the United States and Indonesia.

Electric cars use twice as much copper as internal combustion engines. So-called smart-home systems—such as Alphabet Inc's Nest thermostat and Amazon.com Inc's Alexa personal assistant—will consume about 1.5 million tonnes of copper by 2030, up from 38,000 tonnes today, according to data from consultancy BSRIA.

All that will make the red metal—and other minerals—scarcer commodities, which worries Tesla.

Maryssael added, according to the sources, that Tesla will continue to focus more on nickel, part of a plan by Chief Executive Elon Musk to use less cobalt in battery cathodes. Cobalt is primarily mined in the Democratic Republic of the Congo, and some extraction techniques—especially those using child labor—have made its use deeply unpopular across the battery industry, especially with Musk.

Maryssael told the conference, hosted by commodity pricing tracker Benchmark Minerals Intelligence, that there is "huge potential" to partner with mines in Australia or the United States, according to the sources.

Australia late last year signed a preliminary deal with the United States to support joint research and development of minerals deemed critical to the U.S. economy.

The conference, attended by more than 100 people, featured speakers from the U.S. Department of State and Department of Energy, as well as Standard Lithium Ltd, ioneer Ltd and other companies working to develop U.S. lithium mines.

(This story corrects Tesla executive's title to global supply manager for battery metals instead of head of minerals procurement, paragraph 1.)

ARIZONA CHAMBER OF COMMERCE & INDUSTRY,
PHOENIX, AZ

May 4, 2019

Hon. PAUL GOSAR, *Ranking Member*,
House Subcommittee on Energy and Mineral Resources,
1324 Longworth House Office Building,
Washington, DC 20515.

Dear Ranking Member Gosar:

We write to you today to express our concern regarding the Hardrock Leasing and Reclamation Act of 2019, as drafted. The mining industry in Arizona has a long and proud history, delivering significant economic growth since before we became a state. In recognition of this important contribution, our state flag even features a copper star.

The Arizona Chamber of Commerce and Industry advocates in support of free-market policies that stimulate economic growth and prosperity for all Arizonans. We believe that to maintain a strong economy, Arizona must attract and develop businesses in diverse industry sectors. The Chamber supports policies that improve Arizona's economic vitality, retain existing businesses, and spur new business growth and job creation.

Mining continues to play an important role in the continued economic growth and development of Arizona's future. The total economic impact of the hard rock mining industry in Arizona is $4.29 billion and creates nearly 44,000 direct and indirect jobs. Further, the total state and local taxes generated by mining companies and their employees in the state is $482 million, with even more tax revenues going to the federal government.

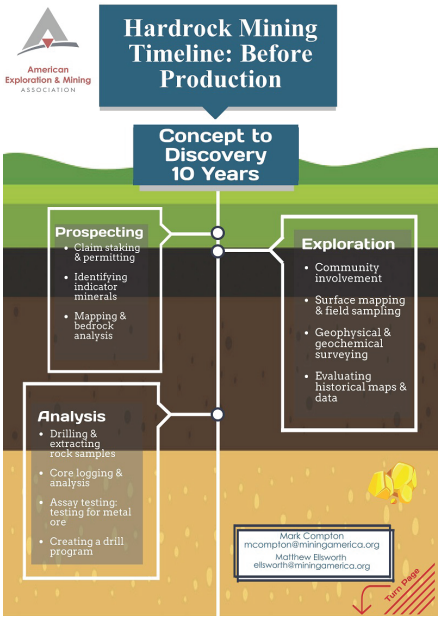
As one of the most regulated industries in the United States, hard rock mining is subject to a myriad of federal and state environmental regulations governing the initiation, operation, and cleanup of mine sites. We support this existing and rigorous framework because it promotes a safer mining industry and helps to protect the people of our state and its remarkable treasures. However, duplicative and onerous regulatory burdens do not improve outcomes, but rather result in chilled economic investment, fleeing industries, and significant job losses.

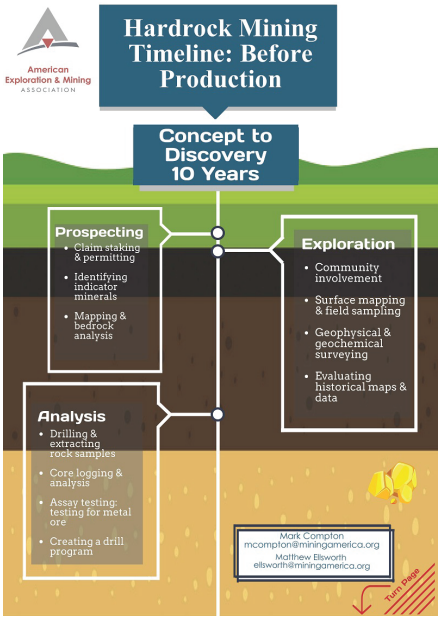
While we seek to ensure an appropriate regulatory balance between protecting Arizonans and supporting new and existing economic growth, we oppose targeted legislative proposals that would imperil longstanding and important industries such as mining. Inversely, we support legislative efforts that promote responsible governance and wise regulation.

Sincerely,

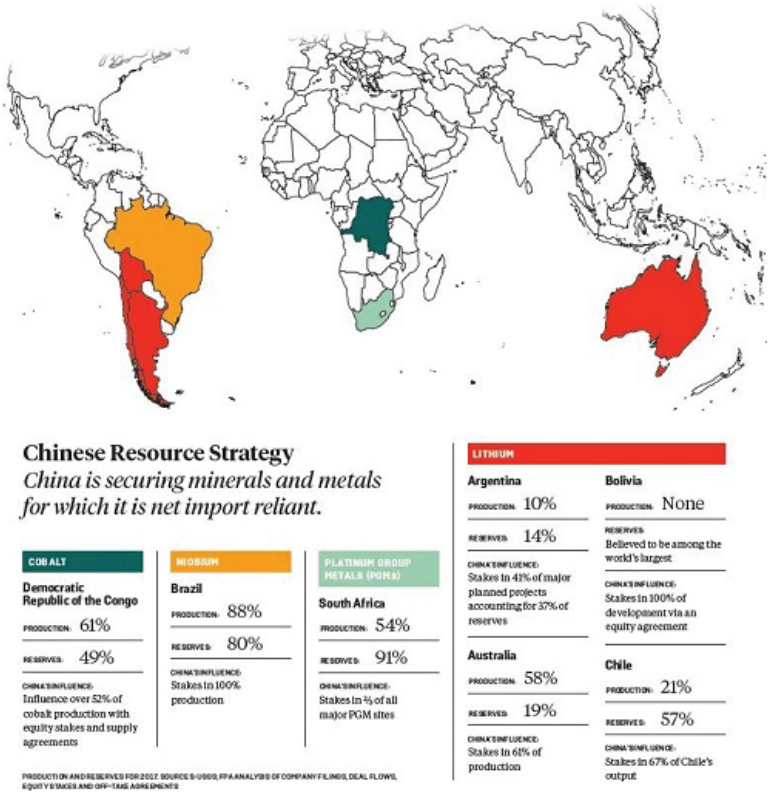
GLENN HAMER,
President and CEO.

Hardrock Mining Timeline
American Exploration & Mining Association





Chinese Resource Strategy



Dr. LOWENTHAL. Thank you. I am now going to ask unanimous consent for Congressman Amodei and Congressman Stauber to sit on the dais and participate in this morning's hearing. Hearing no objection, it has been so ordered.

I will now introduce today's witnesses. First we have the Honorable Edward Manuel, Chairman of the Tohono O'odham Nation; next we have Mr. Colin Davis, owner of Chico Hot Springs Resort and a member of the Yellowstone Gateway Business Coalition; next we have Ms. Gwen Lachelt, County Commissioner of La Plata County, Colorado; and finally, Mr. Robert Comer, partner at Norton Rose Fulbright.

Let me remind the witnesses that they must limit their oral statements to 5 minutes, but their entire statement will appear in the hearing record.

When you begin, the lights on the witness table in front of you will turn green. After 4 minutes, the light will turn yellow, and then your time will expire when the red light comes on 1 minute later. I will ask you to please complete your statement at that time.

I will also allow the entire panel to testify before questioning the witnesses.

Let's begin. The Chair now recognizes Chairman Manuel to testify.

STATEMENT OF THE HON. EDWARD D. MANUEL, CHAIRMAN, TOHONO O'ODHAM NATION, SELLS, ARIZONA

Mr. MANUEL. Good morning, Chairman Lowenthal, Chairman Grijalva, Ranking Member Gosar, and distinguished members of the Subcommittee. My name is Edward D. Manuel, and I am Chairman of the Tohono O'odham Nation, a federally recognized tribe with more than 34,000 members located in southern and central Arizona.

As the Subcommittee is likely aware, mining has caused much turmoil throughout Indian Country. Mining has generated untold amounts of pollution, destroyed natural resources, and caused untold amounts of healthcare issues. These problems have been aided by the 1872 Mining Law. It is time for reform.

The 1872 Mining Law has adversely affected the Tohono O'odham Nation in many ways. I would like to address three today.

First, our mineral resource program oversees Freeport-McMoRan Mine in the northern part of the reservation as well as a historical mine located on our reservation near Tucson. These operations were permitted under an old system, where mining companies could claim minerals underneath our lands without our consent.

The 1872 Mining Law has no environmental standards, so these mines were allowed to generate pollution that impacted our lands and waters. The Freeport-McMoRan Mine has generated pollution that has infiltrated the underground aquifer. The pollution is such that the U.S. Environmental Protection Agency has designated it as an alternative Superfund Site.

The Asarco Mine was able to operate from 1957 to 2001 without a mine plan of operation. It took years of legal wrangling from the Nation to be able to better assure environmental protection in and around the Asarco Mine. If the proposed reforms were in place when the mine started, we could have alleviated many of these heartaches.

Second, the current system has divided mineral rights throughout our reservation lands in the United States among a patchwork of patented, unpatented, public, and allotted lands. The patented mining claims in particular are a great source of pain for the Nation. There are dozens of patented mining claims throughout the Nation.

This makes pockets of land throughout the Nation that we do not have control of. As a result, we still devote some of our financial and administrative resources to buying back mineral rights privatized under the antiquated statute. If the proposed reforms were in place, it is likely the Nation would not have lost so much control of its land.

Finally, the 1872 Mining Law threatens our natural resources near the reservation. Hudbay is seeking to open the Rosemont Mine in the Santa Rita Mountains outside of Tucson. The U.S. Forest Service approved the mine without meaningful tribal consultation. Instead, the Forest Service ignored its authority to

protect cultural resources on public lands where there was no discovery of a valuable mineral deposit. Again, if the proposed reforms were in place, we would have had a seat at the table to allow our concerns to be meaningfully considered.

Reform of the 1872 Mining Law will help prevent the pollution of our lands and waters by providing an independent, dedicated funding source for the clean up of abandoned mines. Revenues from this reclamation fee could be distributed to our mining or mineral resource program and potentially used to employ our Nation's members, not just in mining operations but also in reclamation projects.

It will also permanently end patenting. This privatization of minerals underneath our reservation provides just another way to take our lands from us. Most importantly, this reform respects tribal sovereignty with the consultation process, where Federal agencies received input from tribes.

But I must make clear that this will be for naught if the Federal agencies do not proactively take steps to avoid and minimize the impacts to cultural resources. Finally, this reform clarifies the authority of both tribal governments and the Federal Government to balance mining with other competing land uses.

Thank you again for the opportunity to testify before you. For the above reasons, I respectfully ask for your support of this important mining reform legislation. Thank you.

[The prepared statement of Mr. Manuel follows:]

PREPARED STATEMENT OF THE HONORABLE EDWARD D. MANUEL, CHAIRMAN, TOHONO O'ODHAM NATION OF ARIZONA

INTRODUCTION

Good morning Chairman Grijalva, Chairman Lowenthal, Ranking Member Gosar, and distinguished members of the Subcommittee. My name is Edward Manuel and I am the Chairman of the Tohono O'odham Nation, a federally recognized tribe with more than 34,000 members located in southern and central Arizona. Our traditional lands span across the United States/Mexico border from Sonora to Phoenix, west to the Gulf of California and east to the San Pedro River. As the Subcommittee is likely aware, mining has caused much turmoil throughout Indian Country. Mining has generated untold amounts pollution, destroyed sacred sites and caused untold amounts of sickness. These problems have been aided by the 1872 Mining Law. It is time for reform.

The 1872 Mining Law has adversely affected the Tohono O'odham Nation in many ways. I would like to address three today. First, our Mineral Resources Program administers operations at a Freeport McMoran mine in the northern part of our Reservation, as well as an ASARCO mine located on our Reservation near Tucson. These operations were permitted under an old system, where mining companies could claim minerals underneath our lands without our consent. The 1872 Mining Law has no environmental standards and so these mines were allowed to generate pollution that impacts our lands and waters. The Freeport McMoran mine has generated pollution that has infiltrated the underground aquifer. The pollution is such that the U.S. Environmental Protection Agency has designated it an Alternate Superfund Site. The ASARCO mine was able to operate from 1957–2001 without a Mine Plan of Operation. It took years of legal wrangling for the Nation to be able to better assure environmental protections in and around the ASARCO mine. If the proposed reforms were in place when the mines started, we could have alleviated much of this heartache.

Second, the current system has divided mineral rights throughout our reservation lands in the United States among a patchwork of patented, unpatented, public, and allotted lands. The patented mining claims in particular are a great source of pain for the Nation. There are dozens of patented mining claims throughout the Nation. Since owners of patented mining claims can put the land to ANY use, this makes pockets of land throughout the Nation that we do not have control of. As a result,

we still devote some of our financial and administrative resources to buying back mineral rights privatized under this antiquated statute. If the proposed reforms were in place, it is likely the Nation would not have lost control to so much of its land.

Finally, the 1872 Mining Law is currently causing issues with sacred sites near the Reservation. Hudbay is seeking to open the Rosemont Mine in the Santa Rita Mountains outside of Tucson. The Nation is currently in litigation with the U.S. Forest Service over the proposed mine. The litigation is centered around the fact the Forest Service, with no meaningful tribal consultation, assumed away its authority to protect cultural resources on public lands where there was no discovery of a valuable mineral deposit. Again, if the proposed reform were in place, we would have a seat at the table to allow our concerns to be meaningfully considered.

Reform of the 1872 Mining Law will help prevent the pollution of our lands and waters by providing an independent dedicated funding source for the cleanup of abandoned mines. Revenue from this reclamation fee could be distributed to our Mineral Resources Program and potentially used to employ our Nation's people, not just in mining operations, but also in reclamation projects.

It will also permanently end patenting. This privatization of minerals underneath our reservation provides just another way to take our lands from us. Most importantly, this reform respects tribal sovereignty with a consultation process where Federal agencies receive input from tribes. But I must make clear that this will be for naught if the Federal agencies do not take into meaningful consideration this input received by tribes and proactively take steps to avoid and minimize impacts to cultural resources. Finally, this reform clarifies the authority of both tribal governments and the Federal Government to balance mining with other competing land uses.

Thank you again for the opportunity to testify before you. For the above reasons, I respectfully ask for your support of this important mining reform legislation.

Dr. LOWENTHAL. Thank you, Chairman Manuel.

The Chair now recognizes Mr. Davis to testify for 5 minutes.

STATEMENT OF COLIN DAVIS, MEMBER, YELLOWSTONE GATEWAY BUSINESS COALITION, PARADISE VALLEY, MONTANA

Mr. DAVIS. I would like to thank the Chairman and the entire Committee for inviting me to speak today on behalf of the urgent need to reform the 1872 Mining Law in order to protect our Nation's resources, our free competition, and above all, our communities. I have had the privilege of testifying before this Committee in 2018 while I was fighting for my own home, my own way of life. Today, I feel I am doing the same for my country.

I sit here today as a founding member of the Yellowstone Gateway Business Coalition, also as a business owner and a proud steward of Montana's Paradise Valley. Not unlike Yellowstone National Park, the Paradise Valley is one of God's greatest creations. From the majestic mountains and the flowing river to the thriving ranches, our outdoor lifestyle is clearly abundant. That is where my wife, my daughters, and I, we hike, we hunt, we fish, we recreate. My daughter is here today; she can testify to all of those.

More importantly, it is the gateway to Yellowstone National Park, which draws visitors from around the country but also, as you know, from around the world. And it drives our local economy.

Paradise Valley is as fruitful for commerce as it is for recreation. Our family business, Chico Hot Springs Resort, has thrived for 120 years, primarily thanks to the wonders of the surrounding landscapes. Our family works extremely hard, and we take immense

pride in preserving the springs and our legacy, and we love to share them with others. It is hard work and independence that are a way of life, but it is also a Montana ethic and a Montana way of life.

The other businesses surrounding Yellowstone are equally committed to preserving this place. To that end, over 400 businesses and stakeholders banded together in a successful effort to fight one of the greatest threats our region had ever faced. We stood together to prevent two industrial-scale gold mines from ripping apart our valley, our land, our life, and our businesses. And it was all being done without giving our community a say in the future of these lands, in the future of our own backyard.

We formed this coalition based on three principles. It was formed on pro-business, pro-mining, and pro-property rights. We support development, including mining, when it is done right and it is good for our community. When it is not done right, it should be our right and is our right to oppose it.

The mines would have had a dramatic and negative impact on our already flourishing regional economy. It is important to underscore we are not anti-mining, and this is one of our core principles. We understand the West is rich in extractable minerals, which can be vital to parts of the economy. Our membership includes miners. Mining, like all industries, like my own, can be done well or it can be done poorly.

We also believe in property rights. That being said, mining, even on public lands, can unjustly damage private business interests. We, as the public, should have a loud, loud voice in what happens to our public lands, especially when they are local.

Our principles are consistent with individual liberty and free enterprise, which our Nation values so highly. The tenet of free enterprise should give us a voice in managing, not wasting, these natural resources. What I am sharing with you is nothing new, but our community chose to stand and fight together. It is why our region is now protected from industrial-scale mining via the Gateway Protection Act, which passed in a recent public lands package. It was no easy feat.

Our coalition spent over 4 years, money we did not have, money we could not afford, and countless hours away from our homes and our families, simply to fight foreign corporations that stood to profit from legal loopholes in our own law. And it would have been at our expense. Fortunately, we were successful. But many communities and businesses across the West are facing similar fights.

Today's problems with the 1872 Mining Law were not always problems. In 1872, it made sense to encourage Americans to go West and incentivize them to dig. But today it really does not. The world has changed dramatically in 147 years, but this law simply has not.

The law gives hardrock mining a very unfair advantage in multiple ways. It creates externalities and stifles competition. It gives mining companies a free pass to mine without paying royalties that other extractive industries, such as coal and oil, have to pay. The law, especially, declares mining the best use of public lands with zero cost-benefit analysis. This special treatment frustrates fair competition. Finally, hardrock mining does pump more pollution

than any other source, according to the EPA. This means the industry placing the biggest boot on the taxpayer's back also leaves the biggest footprint on the land.

The way forward, to me, is clear and it is simple. Stop subsidies. Make companies pay royalties. Ensure companies pay for cleanup. And above all, let land managers and local communities choose the true best use of those public lands.

In conclusion, I would like to say that while it was a real honor to be one of the leaders of the Yellowstone Gateway Business Coalition and an honor to win this fight, I would have much rather been at home running my own business and spending the last 4 years with my family.

I hope Congress can find the same bipartisan path it did with the lands package in updating this law. Our lives, our businesses, and our communities should be ours to control and care for. Thank you very much.

[The prepared statement of Mr. Davis follows:]

PREPARED STATEMENT OF TESTIMONY OF COLIN DAVIS, MEMBER, YELLOWSTONE GATEWAY BUSINESS COALITION

INTRODUCTORY REMARKS

Thank you for inviting me back here to speak on the urgent need to reform the 1872 mining law in order to protect our nation's most valuable resources, our commitment to free and fair competition, and our millions of small businesses and communities living adjacent to public lands. While I came here advocating for my home in 2018, I'm advocating today on behalf of my country.

HOW AN OUTDATED LAW NEARLY DESTROYED ONE OF GOD'S GREATEST CREATIONS AND HUNDREDS OF SMALL BUSINESSES

I stand before you as a small business owner, a community leader, and a proud steward of one of God's greatest creations—Montana's Paradise Valley. Paradise Valley is indeed paradise—the kind that we ourselves cannot make, but can certainly enjoy. From majestic mountains and cottonwood glades, to thriving farms and ranches, the Valley offers commercial and recreational opportunities beyond number. My family and I have religiously hunted, hiked, and fished through the seasons of our dynamic landscape for generations, as my daughter who's here today can tell you. The Valley is also the doorstep of the Yellowstone National Park, through which Americans from across the country, and tourists from across the world, come to marvel at the beauty of our national treasure.

Paradise Valley is as fruitful for commerce as it is for recreation, when done right. Our family business, the Chico Hot Springs Resort, has thrived thanks to the wonders of the land it sits on. We take pride in presenting the hot springs to others, and we work hard to preserve the springs and our historic resort in the state we received them.

Hard work and independence are a way of life that has sustained our region for generations. Small businesses in and around Yellowstone are so committed to preserving this way of life that over 400 regional businesses from across the political spectrum came together to fight the greatest threat our region has ever faced. The Yellowstone Gateway Business Coalition formed to prevent two proposed gold mines from ripping apart our land, our views, and our generations-old businesses, without giving any of us who actually live here a say in how we wanted our land used.

The coalition formed with three simple principles, and we still hold these principles today:

- Number 1: We are pro-business. And I can tell you that pursuing short-term profit over long-term gain is a great way to go bankrupt. That is why we support development, including mining, when the development is good for business, and we oppose it when it's not. The proposed gold mines, at commercially viable scale, would have hurt the economic prospects of thousands of Montanans, so our coalition opposed them.

- Number 2: In case this needs repeating, we are not anti-mining. Our group includes members who are themselves miners. Mining, like all forms of industry, can be done well, or done poorly. It can produce a net gain or a net loss. Mining at the front doorstep to Yellowstone is a quick way to destroy both resources and the jobs of thousands of people whose businesses depend on them. Saying "not here" does not mean "not anywhere."
- Number 3: We believe in the sanctity of private property rights and we reject any policy that infringes on those rights. Mining that damages private business interests and property values is unjust, and the community and businesses who will bear the brunt of the impact from mining should have a say in whether and how the mining happens. Private landowners simply cannot be saddled with the risks and costs of hardrock mining without having any say in the matter.

These three principles are consistent with the principles of individual liberty and robust enterprise that undergird our nation and our economy. You don't have to be an environmentalist to agree that giving away public resources so that private corporations can profit at the expense of the public is both foolish and immoral. The net cost of mining gold in Yellowstone is so staggeringly high that it is hard to think anyone ever put the proposition through a balance sheet.

SPARING FUTURE GENERATIONS THIS FIGHT

Inclusion in Public Lands Package

I'm not telling you all anything new. We all agree on the three principles I just shared. Both parties agree that mining on the doorstep to Yellowstone would be a terrible idea, and that's why our valuable region was permanently protected from mining under the public lands package passed this February. But reaching that common-sense conclusion wasn't a simple matter of me or any other resident of Paradise Valley explaining to you the huge net loss of mining there. It wasn't the result of a fair, transparent process in which the people who actually live in an area are consulted about how they'd like to use it. Instead, we had to take huge amounts of time, energy, and money away from our businesses and our families in order to protect them from outside forces.

Our coalition spent 4 years spreading the word that America was about to lose one of its greatest treasures for good, all thanks to an outdated law and unaccountable foreign corporations. The corporation that wanted to build a gold mine above Chico was not family-owned, not regional or local, not even American. Yet it stood to benefit hugely from a loophole in U.S. law, at the expense of our entire nation and especially my community. And my story is just one of many. Small business owners across the West are facing the same fight we did, and most of them do not come out on the other side with their communities and livelihoods intact.

Images and numbers capture the devastating effects of hardrock mining on the towns and businesses in its vicinity: the mustard-yellow Animus River in Colorado, swollen with 3 million gallons of contamination after the Gold King Mine disaster; the $30,000 *per day* cost of treating contamination from the Summitville Mine, estimated to reach at least $170 million; the 40 percent of *all watersheds in the West* that are contaminated from mining alone. Mining is spilling its deadly effects across our country at an ever-expanding rate and an ever-expanding cost. Communities should have the right to "say no" to corporations that would cause these impacts in their backyards.

Need for 1872 Reform

The problems with the existing 1872 mining law are not hard to spot. In 1872, allowing people to mine public lands without paying a penny in royalties was designed to motivate individuals to move West, and it worked. But while this may have made sense more than a century ago, this massive mining subsidy clearly is not working anymore—at least not for the American people.

There are at least glaring problems with the 1872 mining law that Congress should fix. logical fallacies of this law are (1) its fiscal inadequacy, (2) its lack of cost-benefit analysis, and (3) hardrock mining's disproportionate contribution to environmental expenses.

1. The 1872 law declares hardrock mining the "highest and best use" of public lands without accounting for other possible uses, or for the uses of adjacent private lands. Again, this special treatment afforded hardrock mining companies comes at the expense of local communities, who have no input into the development of their public lands for this purpose.

2. The 1872 law gives mining companies a free pass to mine Federal lands without requiring them to pay the standard royalties that other extractive industries, like coal, oil, and natural gas, pay for their profit.
3. Finally, hardrock mining pumps more toxic pollution into our lands than does any other source, according to the Environmental Protection Agency. This means that the industry placing the biggest boot on the back of our taxpayers is also leaving the biggest footprint of pollution on the lands it claims. In Montana, the shameful legacy of irresponsible hardrock mining on public lands is still being felt—in our waterways and our pocket books.

Fixing the 1872 Mining Law is as easy as identifying its flaws. Simply apply the same standards to hardrock mining that we do to all other mining industries. Require hardrock mining companies to pay royalties and reclamation fees, so that taxpayers get their fair share of profit from mining on public lands. Require mining companies to pay for the cleanup of their operations, rather than leaving taxpayers to foot the bill. And most importantly, give communities the opportunity to help choose the true best use of their lands, rather than letting foreign corporations decide for them.

Beyond these immediate fixes, an additional step is needed to help protect communities from hardrock mining. While other extractive industries have to meet environmental standards, there is currently no direct statutory authority for environmental protection under the 1872 law, and existing environmental laws are clearly not ensuring that mining is done responsibly. Federal land managers must be given clear regulatory authority over reclamation of mining sites, or else cleanup will continue to be no one's job and taxpayers' burden.

Taxpayers are subsidizing one of the most lucrative and most damaging industries in the nation for no reason other than an outdated law. We cannot let sheer inertia leave our laws in the 1800s, while our economy and population have 21st century needs.

CONCLUSION

While it has been an honor and a privilege to work with my colleagues on the coalition, I would much rather be running my business. That is what I chose to do 16 years ago and hope to continue doing without being threatened by outdated laws. I hope Congress takes bipartisan action to update this law and allow the millions of Americans living near public lands to live in peace, knowing our businesses and communities are ours to care for and control.

Dr. LOWENTHAL. Thank you, Mr. Davis.

The Chair now recognizes Ms. Lachelt to testify for 5 minutes. Welcome to the Committee.

STATEMENT OF GWEN LACHELT, COUNTY COMMISSIONER, LA PLATA COUNTY, COLORADO

Ms. LACHELT. Thank you, Chairman, Ranking Member, and members of the Committee. My name is Gwen Lachelt. I am a County Commissioner from La Plata County, Colorado.

In 2015, polluted water spilled out of the Gold King Mine, turning the Animas River—the lifeblood of our corner of southwest Colorado—a toxic orange. Three million gallons of acidic waste laden with arsenic, lead, and other harmful contaminants spilled out of the inactive gold mine, flowing directly into the Animas River. The people of southwest Colorado rely on the river for drinking water, to irrigate fields, to sustain wildlife, and to support a lucrative outdoor recreation industry.

The 1872 Mining Law reform and the reclamation fund it would create would help communities like mine clean up the hundreds of thousands of abandoned hardrock mines that litter the West. To date, there is still no comprehensive inventory of abandoned hardrock mines, no system to prioritize cleanup of the most

dangerous of these mines, and almost no funds to pay for it. According to the EPA, estimated clean-up costs are around $50 billion.

La Plata County is not alone in feeling the impacts of abandoned mines. The hardrock mining industry is the country's largest source of toxic pollution, according to the EPA's Toxic Release Inventory. And because the 150-year-old Mining Law continues to govern in the 21st century, both abandoned and operating mines leave behind environmental, public health, and economic devastation that taxpayers must pay for and communities must endure.

Just last week, the Blue River that flows through Breckenridge, Colorado turned orange because of recent precipitation that mobilized runoff from an abandoned mine upstream. One of the biggest concerns following the river's dramatic change in color last weekend has been about the safety of drinking water supplies, given that hundreds of thousands of people in Colorado rely on Dillon Reservoir, which is downstream from the pollution.

Communities across the country rely on their rivers the way we rely on the Animas. Our health and prosperity depend on clean water. Reforming the 1872 Mining Law to bring it into the modern age can help us clean up old mines and safeguard our precious water resources from future mine disasters.

The time to change U.S. mining policy is long overdue. The General Mining Law that governs today's mining industry was signed into law more than 147 years ago, when miners worked with picks and shovels—a far cry from the modern mines that can decimate entire watersheds. We have an opportunity to make sure that there is never another Gold King Mine spill. By reforming the 1872 Mining Law, we not only create a robust reclamation fund to clean up old mines, but we also create jobs.

An Abandoned Mine reclamation program with a significant, dedicated funding source can act as an economic driver. Across the country, the Surface Mining Control and Reclamation Act's Abandoned Mine program has reclaimed over $5.7 billion worth of mine pollution and nearly 800,000 acres of damaged land and water. This work cannot be outsourced. The program delivered a total impact of $778 million to the U.S. economy in Fiscal Year 2013, and supported 4,761 jobs across the country, 1,317 of which were in Central Appalachian states.

The Congressional Budget Office estimates that for each $1 million spent on mine cleanup, 14 to 33 new jobs are created. In Ohio, the Surface Mining Control and Reclamation Act funds generated 10 jobs per million dollars invested. Between 2008 and 2013, Federal funding to the AML program generated more than $1.8 million in Ohio State and local tax revenue. Stream restoration has a positive economic impact as well. In West Virginia, estimated benefits from restoration of Deckers Creek total about $1.9 million annually.

Without 1872 Mining Law reform, we simply do not have enough money to pay for mine cleanup and spill prevention for the hundreds of thousands of abandoned and inactive mines that litter our country. The public and the environment have paid the price for too long. Western communities and water resources need Congress to act now to protect our important water resources.

Thank you very much.

[The prepared statement of Ms. Lachelt follows:]

PREPARED STATEMENT OF GWEN ALEXANDRA LACHELT, COUNTY COMMISSIONER, LA PLATA COUNTY, COLORADO

Thank you Chairman Grijalva, Chairman Lowenthal, Ranking Member Gosar and members of the Committee, for inviting me to testify today. My name is Gwen Alexandra Lachelt, and I am a county commissioner from La Plata County, Colorado. In 2015, polluted water spilled out of the Gold King mine turning the Animas River—the lifeblood of our corner of southwest Colorado—a toxic orange.

Three million gallons of acidic waste laden with arsenic, lead and other harmful contaminants spilled out of the inactive gold mine, flowing directly into the Animas River. The people of southwest Colorado rely on the river for drinking water, to irrigate fields, to sustain wildlife and to support a lucrative outdoor recreation industry.

1872 Mining Law reform, and the reclamation fund it would create, would help communities like mine clean up the hundreds of thousands of abandoned hardrock mines that litter the West. To date, there is still no comprehensive inventory of abandoned hardrock mines, no system to prioritize cleanup of the most dangerous of these mines, and almost no funds to pay for it. According to the Environmental Protection Agency (EPA), estimated clean-up costs total approximately $50 billion.

La Plata County is not alone in feeling the impacts of abandoned mines. The hardrock mining industry is the country's largest source of toxic pollution, according to the EPA's Toxic Release Inventory. And because the 150-year-old Mining Law continues to govern the industry in the 21st century, both abandoned and operating mines leave behind environmental, public health and economic devastation that taxpayers must pay for and communities must endure.

Just last week, the Blue River that flows through Breckenridge, Colorado, turned orange because recent precipitation mobilized runoff from an abandoned mine upstream. One of the biggest concerns following the river's dramatic change in color this weekend has been about the safety of drinking water supplies, given that hundreds of thousands of people living on the Front Range rely on Dillon Reservoir, which is downstream from the pollution.

Communities across the country rely on their rivers the way we rely on the Animas. Our health and prosperity depend on clean water. Reforming the 1872 Mining Law to bring it into the modern age can help us clean up old mine sites and safeguard our precious water resources from future mine disasters.

The time to change U.S. mining policy is long overdue. The General Mining Law that governs today's mining industry was signed into law more than 147 years ago, when miners worked with hammer and chisel—a far cry from the modern mines that can decimate entire watersheds.

We have an opportunity to make sure that there is never another Gold King Mine spill. By reforming the 1872 Mining Law, we not only create a robust reclamation fund to clean up old mines, we also create jobs.

An Abandoned Mine Land (AML) reclamation program with a significant, dedicated funding source can act as an economic driver. Across the country, the Surface Mining Control and Reclamation Act's (SMCRA) AML program has reclaimed over $5.7 billion worth of mine pollution and nearly 800,000 acres of damaged land and water. This work cannot be outsourced. The program delivered a total impact of $778 million to the U.S. economy in FY 2013, and supported 4,761 jobs across the country, 1,317 of which were in Central Appalachian states.

The Congressional Budget Office (CBO) estimates that for each $1 million spent on mine cleanup, 14 to 33 new jobs are created. In Ohio, SMCRA coal reclamation funds generated 10 jobs per million dollars invested. Between 2008 and 2013, Federal funding to the AML Program generated more than $1.8 million in Ohio state and local tax revenue. Stream restoration has a positive economic impact as well. In West Virginia, estimated benefits from restoration of Deckers Creek total about $1.9 million annually.

Without 1872 Mining Law reform, we simply don't have enough money to pay for mine cleanup and spill prevention for the hundreds of thousands of abandoned and inactive mines that litter our country. The public and the environment have paid the price for too long. Western communities and water resources need Congress to act now to protect our important water resources.

Thank you.

Dr. LOWENTHAL. And we thank you, Ms. Lachelt.

The Chair now recognizes Mr. Comer to testify for 5 minutes. Welcome.

STATEMENT OF ROBERT D. COMER, PARTNER, NORTON ROSE FULBRIGHT US LLP, DENVER, COLORADO

Mr. COMER. Thank you, Mr. Chairman, Ranking Member, and Members. I am Bob Comer, a mining and environmental lawyer, and a former associate and regional solicitor for the Department of the Interior. My career has been devoted to the conservation and protection of sensitive resources in the environment and in advancement of mineral and other land uses. My comments are supplemented by written testimony.

The General Mining Law, as amended, governs how U.S. citizens may gain access to hardrock minerals so important to our economy, renewable energy future, and daily lives. No modern city, home, factory, computer, telephone, solar panel, train, plane, automobile, or national defense system can be built without minerals.

The proposed legislation will harm our Nation by severely limiting access and tenure to minerals at a time when the national agenda demands more. Because renewable energy cannot be achieved without minerals, the proposed legislation is inconsistent with the country's renewable energy expansion objectives. Solar panels, EV cars, rechargeable batteries, and wind turbines require an array of hardrock minerals. Smartphones require over 40 minerals.

Just last week, the World Bank Group launched its Climate Smart Mining Initiative that focused on mining's indispensable role in renewables. It showed an alarming reliance on foreign minerals, including 14 of the 15 minerals identified as essential for renewables. The world will demand the same amount of copper in the next 25 years as has been mined over the last 500 years, yet our dependence on many essential minerals has greatly increased over the past 20 years despite our substantial mineral wealth.

The sweeping changes proposed to the Mining Law are unwarranted, given how little Federal land is used for hardrock mineral activities. There are about 350,000 active mining claims, with roughly half being in Nevada, which is less than 1 percent of the lands with our Nation's mineral wealth. And only 313,000 mineral acres have been authorized for service disturbance. When viewed in perspective, this far-reaching proposed legislation is grossly out of proportion to mining's very minor impact on Federal lands.

Self-initiation allows U.S. citizens to locate mining claims on Federal lands to explore for minerals with the hope of discovery. The National Academy of Sciences estimates that 1,000 mineral targets must be evaluated to discover just one deposit. These are daunting odds.

Self-initiation leverages private investment to finance the costly physical and drilling programs at no risk or expense whatsoever to U.S. taxpayers. Mines can only be developed where the minerals exist. The irony of this legislation is that it would cloak a functioning mining law in a century-old leasing system.

The proposed leasing program is fraught with problems that will precipitate the forfeiture of private property rights. It will cause a

premature shutdown of mines. In Nevada alone, several large mining companies operate numerous mines that exceed the acreage limitations contained in this legislation. This will create a substantial impact and burden on many communities and the country.

One of the stated drivers for the proposed legislation is to create mechanisms to say no to mining—in other words, to leave more mineral in the ground. There is no need for another law to put Federal lands off-limits to mining as nearly 50 percent of the Federal mineral estate already is off-limits to mining. The new suitability provisions would prohibit mining. They are unnecessary. They eliminate the balance that the Federal land management and environmental laws create. And they elevate virtually all other uses over mining.

Congress has amended the mining law many times over the years to respond to evolving environmental and land management requirements. Any hardrock royalty must promote a fair return to the public while ensuring the viability of hardrock mining on Federal lands, which the proposed royalty does not achieve.

Modeling a hardrock royalty after coal, oil, or gas programs does not consider the differences that exist between these minerals, from exploration through processing. Finally, the royalty and dirt tax revenues are illusory because the royalty base will be dramatically reduced due to the many onerous provisions in the proposed legislation.

Congress should consider policies that encourage responsible mineral exploration and development to discover the domestic minerals needed for American security and society. Amending the Mining Law to provide a fair return to the public, while preserving certainty, land tenure, and private investment for finding, developing, and producing domestic minerals, would be an important step toward energy independence and a clean energy future and a stronger America.

Thank you for the opportunity to testify, and I look forward to answering any questions you may have.

[The prepared statement of Mr. Comer follows:]

PREPARED STATEMENT OF ROBERT D. COMER, ESQ., CO-HEAD OF MINING, NORTON ROSE FULBRIGHT US LLP

INTRODUCTION

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

Thank you for the opportunity to appear today to discuss the numerous policy challenges contained in the discussion draft of the Hardrock Leasing and Reclamation Act of 2019 (the "proposed legislation") and how they will adversely

affect America's national security, energy future and social fabric by deterring, and in many instances eliminating, mining on Federal lands.

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

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

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

THE HARDROCK LEASING AND RECLAMATION ACT OF 2019 WILL INCREASE AMERICA'S RELIANCE ON FOREIGN MINERALS—INCLUDING MINERALS NECESSARY FOR DEVELOPING RENEWABLE ENERGY

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

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

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

---

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

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

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

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

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

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

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

A TOTAL OVERHAUL OF THE MINING LAW IS UNWARRANTED GIVEN MINING'S VERY SMALL FOOTPRINT ON FEDERAL LAND

In discussing whether the dramatic changes to the Mining Law in the proposed legislation are warranted, it is important to understand how little Federal land is currently being used for hardrock mineral activities. The sweeping changes proposed to the Mining Law must be evaluated in the context of the very limited footprint that mining has on Federal land. When mining is put into proper perspective, it becomes clear how the far-reaching changes proposed in the Hardrock Leasing and Reclamation Act of 2019 are grossly out of proportion to mining's impact on Federal land. In fact, the miniscule amount of Federal lands being used for hardrock mining calls into question whether Congress should devote much effort to discussion about changing the Mining Law.

BLM's 2017 Public Lands Statistics[7] show that at the end of FY 2017, there were only 358,983 active mining claims distributed in the western states, with roughly half of these claims located in Nevada. (The number of claims in Nevada reflects the fact that if Nevada were a country it would be the fourth largest gold producing

---

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

[4] *Nature*, Ali et al. 2017, p. 367 as cited on page xvi of the World Bank report.

[5] http://www.riotinto.com/documents/190409_Arnaud_Soirat_World_Copper_Conference_presentation_speech.pdf.

[6] See Exhibit I, Burnell, J.R., *You Say Alternatives are the Answer . . . Let's Talk: Resource Constraints on Alternative Energy Development*, American Institute of Professional Geologists, in, The Professional Geologist, March/April 2009 pp. 33–37.

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

country in the world). BLM's annual public lands statistics show that since 2001, the number of active mining claims has fluctuated largely in response to commodity prices from a low of 203,354 claims in 2002 when gold prices ranged from about $278 to $349 per ounce to a high of 406,140 claims in 2012 when gold prices were as high as $1,789 per ounce.

Under the Mining Law, a lode mining claim is limited to a maximum of 20 acres. Thus, the aggregate footprint of the active claims in 2017 covered roughly 7.8 million acres, which is a minute fraction—less than 1 percent—of the Nation's 800 million-acre Federal mineral estate. About half of this footprint is located in Nevada; the rest is scattered throughout the West. According to BLM, in 2017, there were 43,401 mining claims in Arizona covering 863,791 acres. By way of comparison, Maricopa County, Arizona covers roughly 9,224 square miles[8] or 5.9 million acres. The states of Alaska, Colorado, New Mexico, Oregon, and Washington each had fewer than 10,000 claims in 2017.

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

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

The draconian changes proposed in the proposed legislation will exacerbate this problem by decreasing mineral activities on Federal land. Rather than measures that eliminate or make exploration and mining more difficult on Federal land, this country needs policies to encourage responsible exploration and development of our mineral resources, consistent with the policy objectives in Section 102(a)(12) of the Federal Land Policy and Management Act of 1976, (43 U.S.C. 1701 *et seq*), the National Materials and Minerals Policy Research and Development Act of 1980 (30 U.S.C. 1601 *et seq*) and other laws.

PREVIOUS AMENDMENTS TO THE MINING LAW HAVE ALREADY MET MODERN POLICY OBJECTIVES

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

The Minerals Leasing Act of 1920

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

The 1920 Minerals Leasing Act created a prospective leasing system that did not interfere with the Mining Law rights to oil and gas mining claims that existed on the date of enactment. Section 37[10] of the 1920 Minerals Leasing Act is a savings clause which preserved the property rights under the Mining Law on existing claims of oil, gas, and the other Minerals Leasing Act minerals that going forward would

---

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

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

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

require a lease rather than a mining claim. The Section 37 savings clause allowed claim owners to continue to explore and develop their existing oil and gas mining claims, to make discoveries, and to secure patents to those claims under the provisions of the Mining Law.

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

The Mining and Minerals Policy Act of 1970

When Congress enacted the Mining and Minerals Policy Act of 1970, it declared that "it is the continuing policy of the Federal Government in the national interest to foster and encourage private enterprise in (1) the development of economically sound and stable domestic mining, minerals, metal and mineral reclamation industries, (2) the orderly and economic development of domestic mineral resources, reserves, and reclamation of metals and minerals to help assure satisfaction of industrial, security and environmental needs." (30 U.S.C. § 21a). The mineral directives in this Act apply to BLM-administered public lands and National Forest System lands. These are compatible objectives that operate to encourage deployment of privately-funded, domestic mineral production while protecting the environment.

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

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

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

National Forest Management Act of 1976

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

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

---

[11] 43 CFR 3809 §§ .5, .401, .415, and .420.

[12] https://www.fs.fed.us/geology/1975_mining%20in%20national%20forests.pdf.

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

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

In the 1980 Act, Congress found:

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

In response to this finding, Congress declared:

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

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

Enactment of Claims Maintenance Fee Requirements

In 1992, Congress made another significant change to the Mining Law using the appropriations process to establish an annual fee, the Claims Maintenance Fee, in lieu of the annual assessment work requirement in Section 28 of the Mining Law and to place a moratorium on patenting. As a result of this change, claimholders currently must pay $155 per claim to keep their claims in good standing. This fee, which is adjusted every 5 years to reflect the Consumer Price Index will increase in 2019. By making timely payment of this fee, claimants secure the right to use and occupy Federal lands, subject to compliance with the 43 CFR 3809 and 36 CFR 228A surface management regulations and all other applicable state and Federal environmental protection regulations.

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

The 1920 Mineral Leasing Act, FLPMA, and the annual Claims Maintenance Fee are examples of how Congress has continually updated the Mining Law since its enactment in response to evolving land management requirements, and clearly demonstrate that the law is not antiquated. To the contrary, the Law as amended serves the country well. If the Law is amended in the future, the changes should be

---

[13] GAO-16-699.

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

surgical and tailored to respond to specific land management objectives—and not a wholesale overhaul like that in the proposed legislation, which is completely unwarranted in light of the very limited use of Federal lands for hardrock mineral activities and counter-productive to satisfying the Nation's demand for minerals.

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

The Myriad Environmental and Sensitive Resource Protection Laws

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

THE PROPOSED LEASING SYSTEM INTERFERES WITH EXISTING PROPERTY RIGHTS AND WILL LEAD TO TAKINGS LITIGATION

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

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

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

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

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

part of productive mining operations. Then the government will have to expend taxpayer funds to satisfy Constitutional taking claims without the benefit of any mineral production.

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

The temporary and spatially constrained prospecting license in the proposed legislation is completely inappropriate and unworkable for hardrock minerals. Prospecting licenses have a primary term of only 2 years, with the possibility of a 4-year extension, and cannot cover more than 2,560 acres, the equivalent of just 128 20-acre mining claims. To put this artificial acreage limit into perspective, most promising mineral exploration projects are typically comprised of several hundred to several thousand claims to give the owner the ability to conduct mineral exploration over a broad area with mineral potential.

The totally unrealistic time and areal constraints in the proposed draft bill will severely curtail if not virtually eliminate mineral exploration on Federal lands. Because the exact location of hardrock mineral deposits is generally unknown, these deposits are difficult to find and discovery typically takes 10 years or longer. Investment in mineral exploration will become even riskier and less attractive if an arbitrary and unrealistic term limit of 2 to 6 years is imposed on what is already a very high-risk endeavor.

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

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

Although creating a one-size-fits-all leasing process for hardrock minerals, coal, oil, gas, etc. might sound like a desirable policy objective, it fails to realize the significant geologic differences between oil, gas, coal and hardrock mineral deposits that make a uniform hardrock leasing program untenable. Oil and gas are fluid minerals that occur in well understood sedimentary basins where geophysical surveys that do not disturb the surface can identify oil and gas targets with a high likelihood of success. Once an oil well is drilled, it can readily be modified into a production well.

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

THE HARDROCK LEASING AND RECLAMATION ACT OF 2019 WILL PUT MORE LAND OFF-LIMITS TO MINERAL EXPLORATION AND DEVELOPMENT

One of the stated drivers for the proposed legislation is to create mechanisms to say no to mining. We question the need for yet another way to put lands off-limits

to mining when the Federal Government has already eliminated mining on half of the Federal mineral estate.[15] Congress and the Federal land management agencies already have established effective statutory and regulatory tools to prohibit mining on large swaths of Federal lands. The suitability determination proposed in Section 112 is unnecessary in light of the numerous other mechanisms to segregate Federal lands from mining. Additionally, no one group should be given the authority as proposed in Section 112 to declare lands unsuitable for mining.

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

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

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

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

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

Using this permitting process, BLM, the Forest Service, EPA, and state regulatory agencies already have the authority to say no to mining if there are doubts that the project can meet specific environmental protection regulatory requirements. During the permitting process, regulators can require project proponents to go back to the

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

drawing board to redesign a project to address concerns about environmental impacts. Additionally, the NEPA process requires detailed alternatives analysis to identify the project configuration that best eliminates or mitigates potential impacts. Numerous other Federal environmental statutes also govern mining including but not limited to the Endangered Species Act, the Clean Air Act, the Clean Water Act, the National Historic Preservation Act, Archaeological Resources Protection Act, the Resource Conservation and Recovery Act, and the Comprehensive Environmental Response Compensation and Liability Act.

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

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

The Section 204(c)(1)(H) prohibition against authorizing mines that require water treatment facilities that must operate for longer than 10 years after mine closure is too limiting. At highly regulated and fully bonded modern mines, the investments made in water treatment systems to meet water quality criteria often can be viewed as a long-term asset that benefits the public long after mining has ceased. Under BLM's and the Forest Services' financial assurance regulations, mine operators must provide long-term financial assurance instruments to cover the operating costs for post-mining water treatment facilities. In some cases, these financial assurance instruments are designed to provide funding for in perpetuity operation of water treatment facilities. Post-mining water treatment facilities can also be passive in nature and assure the conservation of water resources.

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

THE ROYALTY AND MATERIALS DISPOSAL FEE PROVISIONS IN THE HARDROCK LEASING AND RECLAMATION ACT OF 2019 ARE UNFAIR AND ILLUSORY

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

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

The royalty and the material disposal fee in the proposed legislation will be new and additional costs that will impact project economics of every mine and likely

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

make some currently operating mines uneconomic. They are certain to shorten the viable operating life of many mines, forcing premature closure of what would otherwise be profitable mining operations, which defeats conservation objectives. The immediate adverse economic impacts will be loss of high-paying direct jobs and the many indirect jobs that mines create, and tax revenues for local, state, and federal governments.

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

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

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

Production Royalty

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

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

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

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

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

---

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

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

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

Retroactive Imposition of the Royalty on Existing Claims

The retroactive imposition of the gross royalty on existing claims will be highly disruptive to the structure of the industry today. Many projects in development or in production have relied on construction finance packages to construct the mine. The retroactive royalty has the potential to trigger immediate defaults of those credit facilities, creating serious financial problems for operators and mine financiers. However, it is important to understand that the 8 percent royalty on existing mines will affect more than just mine operators and the financial institutions that have provided mine financing. It will also affect BLM and the Forest Service because these agencies will be faced with mining operations that may be forced to close prematurely.

Administration's 2007 Statement of Policy

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

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

Because the royalty proposed in the proposed legislation is similar to that proposed 12 years ago in H.R. 2262, the same takings concerns are applicable. It is important to recognize that the universe of potential takings claims litigants goes beyond mine owners and operators and includes the entities that have provided mine financing and companies and individuals with third-party royalty agreements for these mines. It could potentially include states that currently derive royalty or severance tax revenues from hardrock mines.

THE HARDROCK LEASING AND RECLAMATION ACT OF 2019 WILL NOT CREATE A VIABLE ABANDONED MINE RECLAMATION FUND

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

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

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

Two Good Samaritan meetings in April 2019 in Reno, Nevada and Denver, Colorado discussed this problem. Participants in these meetings included state and Federal regulators, conservation groups involved with limited AML cleanups, environmental and reclamation professionals, and mining companies. Although there is widespread interest in addressing the AML problem, CWA and CERCLA liability

concerns are recognized as a serious obstacle. Good Samaritan legislation is clearly needed to facilitate reclamation of AML sites where there are water quality issues.

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

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

CONCLUSION

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

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

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

I look forward to answering your questions.

ATTACHMENTS

2018 U.S. NET IMPORT RELIANCE[1]

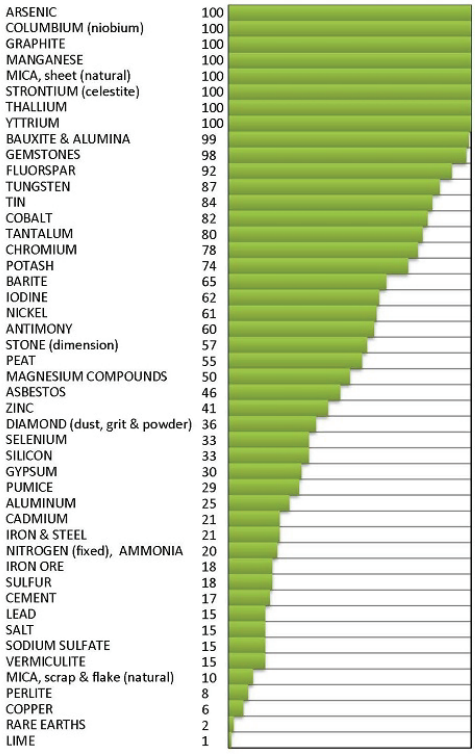
Commodity	Percent	Major import sources (2014-17)[2]
ARSENIC (trioxide)	100	Morocco, China, Belgium
ASBESTOS	100	Brazil, Russia
CESIUM	100	Canada
FLUORSPAR	100	Mexico, Vietnam, South Africa, China
GALLIUM	100	China, United Kingdom, Germany, Ukraine
GRAPHITE (natural)	100	China, Mexico, Canada, Brazil
INDIUM	100	China, Canada, Republic of Korea, Taiwan
MANGANESE	100	South Africa, Gabon, Australia, Georgia
MICA (sheet, natural)	100	China, Brazil, Belgium, Austria
NEPHELINE SYENITE	100	Canada
NIOBIUM (columbium)	100	Brazil, Canada, Russia, Germany
RARE EARTHS (compounds and metals)[3]	100	China, Estonia, France, Japan
RUBIDIUM	100	Canada
SCANDIUM	100	Europe, China, Japan, Russia
STRONTIUM	100	Mexico, Germany, China
TANTALUM	100	Brazil, Rwanda, Australia, Congo (Kinshasa)
THORIUM	100	India, United Kingdom
VANADIUM	100	Austria, Canada, Republic of Korea, Russia
GEMSTONES	99	India, Israel, Belgium, South Africa
BISMUTH	96	China, Belgium, Mexico, Republic of Korea
YTTRIUM	>95	China, Estonia, Japan, Republic of Korea
POTASH	92	Canada, Russia, Belarus, Israel
TITANIUM MINERAL CONCENTRATES	91	South Africa, Australia, Canada, Mozambique
DIAMOND (dusts, grit and powder)	89	China, Ireland, Republic of Korea, Romania
ANTIMONY (oxide)	85	China, Thailand, Belgium, Bolivia
ZINC	85	Canada, Mexico, Peru, Australia
BARITE	84	China, India, Mexico, Morocco
RHENIUM	84	Chile, Germany, Belgium, Poland
STONE (dimension)	82	Brazil, China, Italy, Turkey
TIN	78	Indonesia, Malaysia, Peru, Bolivia
ABRASIVES, fused aluminum oxide (crude)	>75	China, France, Hong Kong, Canada
ABRASIVES, silicon carbide (crude)	>75	China, Netherlands, South Africa, Romania
BAUXITE	>75	Jamaica, Brazil, Guinea, Guyana
TELLURIUM	>75	Canada, China, Germany
TITANIUM (sponge)	75	Japan, Kazakhstan, Ukraine, China,
PLATINUM	73	South Africa, Germany, United Kingdom, Italy
CHROMIUM	71	South Africa, Kazakhstan, Russia
PEAT	70	Canada
GARNET (industrial)	68	Australia, India, South Africa, China
SILVER	65	Mexico, Canada, Peru, Republic of Korea
COBALT	61	Norway, China, Japan, Finland
NICKEL	52	Canada, Norway, Australia, Russia
GERMANIUM	>50	China, Belgium, Germany, Russia
IODINE	>50	Chile, Japan
IRON OXIDE PIGMENTS (natural)	>50	Cyprus, Spain, France, Austria
IRON OXIDE PIGMENTS (synthetic)	>50	China, Germany, Brazil, Canada,
LITHIUM	>50	Argentina, Chile, China, Russia
TUNGSTEN	>50	China, Bolivia, Germany, Canada,
ALUMINUM	50	Canada, Russia, United Arab Emirates, China
MAGNESIUM COMPOUNDS	48	China, Canada, Australia, Brazil
ALUMINA	45	Australia, Brazil, Suriname, Jamaica
SILICON	34	Russia, Brazil, Canada, China
PALLADIUM	33	South Africa, Russia, Italy, United Kingdom
COPPER	32	Chile, Canada, Mexico
VERMICULITE	30	South Africa, Brazil, China, Zimbabwe
LEAD	29	Canada, Mexico, Republic of Korea, India
PUMICE	29	Greece, Iceland, Mexico
SALT	28	Chile, Canada, Mexico, Egypt
MICA (scrap and flake, natural)	26	Canada, China, India, Japan
PERLITE	25	Greece, Mexico, Turkey
BROMINE	<25	Israel, Jordan, China
CADMIUM	<25	Canada, Australia, China, Belgium
MAGNESIUM METAL	<25	Israel, Canada, United Kingdom, Mexico
IRON and STEEL	24	Canada, Brazil, Republic of Korea

[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 (abrasives, metallic; boron; clays; diatomite; gold; helium; iron and steel scrap; iron ore; kyanite; molybdenum concentrates; sand and gravel, industrial; selenium; soda ash; titanium dioxide pigment, wollastonite; zeolites; and zirconium) or less than 24% import reliant (beryllium; cement; diamond, industrial stones; feldspar; gypsum; iron and steel slag; lime; nitrogen (fixed)-ammonia; phosphate rock; sand and gravel, construction; stone, crushed; sulfur, and talc and pyrophyllite). For some mineral commodities (hafnium; mercury; quartz crystal, industrial; and thallium), not enough information is available to calculate the exact percentage of import reliance.

[2]In descending order of import share.
[3]Data include lanthanides

Data from U.S. Geological Survey, 2019, Mineral commodity summaries 2019: U.S. Geological Survey, 200 p., https://doi.org/10.3133/70202434, Page 6.

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

*****

The following documents were submitted as supplements to Mr. Comer's testimony. These documents are part of the hearing record and are being retained in the Committee's official files:

— Exhibit I: *You Say Alternatives are the Answer . . . Let's Talk: Resource Constraints on Alternative Energy Development*, Burnell, J.R., American Institute of Professional Geologists, *in* The Professional Geologist, March/April 2009, pp. 33–37.

— Exhibit II: James Cress' January 24, 2007 Testimony before the Senate Energy and Natural Resources Committee.

— Exhibit III: James Cress' July 20, 2017 Testimony before the House Natural Resources Committee/Energy and Mineral Resources Subcommittee.

QUESTIONS SUBMITTED FOR THE RECORD BY REP. GOSAR TO ROBERT D. COMER, ESQ.

Question 1. This bill would apply a 12.5 percent royalty on new mines, and an 8 percent royalty on existing mines. Why shouldn't hardrock mining have the same? What about this particular industry makes a large gross royalty such a bad fit?

Answer. To determine the burden of a Federal mineral royalty, both the royalty rate and the royalty base must be considered. Federal royalties on natural resource commodities produced from Federal lands should satisfy the following overarching objectives:

Royalty Rates:

Royalty rates must be responsive to the mineral commodities in question. As demonstrated by the Mineral Leasing Act of 1920 (MLA) 30 U.S.C. 181 *et seq.*, a uniform royalty rate is not practical. Under the MLA, royalty rates for oil, gas, coal, phosphate, sodium, potassium, and sulfur range from 12.5 percent to 2 percent. Oil and gas are valued, with some exceptions, at the well head. Coal is valued at the mine mouth typically after only nominal processing. For example, there is a well-developed market for a barrel of crude oil, for MMBtu (1,000 cubic feet of 1,000 Btu) of natural gas, and for raw crude coal at the mine. For purposes of assessing the Federal royalty the other leasable minerals are valued when they first become marketable products. The processing necessary to create a marketable product varies greatly by mineral commodity, nature of the orebody and other factors, and generally is much more complex for hardrock minerals than for coal, oil, and gas.

Royalty Base:

The royalty base is the amount against which the royalty rate is applied. For example, a royalty base might be the proceeds of sale of a marketable product, less certain allowable costs. The royalty base must allow reasonable deductions for the costs to produce a marketable product. The Federal royalty regulations for the minerals governed by the MLA allow certain deductions that vary depending on the mineral. The royalty base for hardrock mineral commodities should similarly allow deductions to back out the post-mining costs necessary to produce the first marketable products of the various hardrock mineral products.

Promote Mineral Production and Provide a Fair Return to Taxpayers:

Because the main purpose of assessing Federal royalties is to provide a fair return to taxpayers from production of minerals from Federal lands, the royalty must be workable and responsive to the business dynamics and economic conditions that apply to each mineral commodity. An unfair or confiscatory royalty will be at cross purposes with this objective because it will reduce mineral production.

Unfortunately, the royalty proposed in H.R. 2579 does not satisfy any of these objectives. First it simplistically force-fits the 12.5 percent Federal royalty rate applicable to oil, gas and surface-mined coal onto hardrock minerals, which fails to consider the substantial economic and business differences between discovering and producing marketable coal, crude oil, and gas versus the much greater complexity in finding, mining, and processing hardrock minerals into marketable products.

Second, the proposed structure for the hardrock mineral royalty does not allow any deductions for the numerous and costly processing steps required to transform hardrock mineral ores (rocks that contain minute quantities of valuable metals) into marketable metal products. Unlike raw hardrock mineral ores for which there is no market, unrefined crude oil and gas are marketable commodities that are typically sold directly in either arm's length or non-arm's length transactions. Oil and gas royalties, which are assessed on crude oil and gas as they come out of the ground at the well head, allow crude oil and gas producers to deduct the transportation costs to deliver the crude oil and gas to buyers of these products. Other types of deductions are allowed for the other MLA minerals.

Finally, the H.R. 2579 royalty, along with the unworkable and onerous leasing and environmental provisions in the bill, will significantly chill investment in hardrock minerals and cause a dramatic decline in hardrock mineral production from Federal lands. Instead of rewarding taxpayers with increased revenue from hardrock mining, H.R. 2579 will reduce existing hardrock mining revenues such as claims maintenance fees, and will produce only paltry hardrock royalty revenues.

The 12.5 percent royalty rate on oil, gas, and coal produced from surface mines works for these commodities because they are much easier to find compared to hardrock minerals (see the response to Question No. 5) and do not require complex

and costly post-extraction processing to produce marketable products. The lower Federal royalty of 8 percent on coal produced from underground mines [1] reflects the higher extraction costs associated with underground coal mines compared to surface mines and clearly illustrates that a uniform Federal royalty rate is unworkable—even for leasable minerals. The uniform 12.5 percent royalty in H.R. 2579 for all hardrock minerals is similarly impractical.

In evaluating the inappropriateness of a uniform 12.5 percent hardrock mineral royalty, it is instructive to consider the different royalty rates that apply to the MLA minerals as shown in Table 1. The MLA imposes a different royalty rate and royalty valuation (the point in the production cycle at which the royalty is assessed) for the various MLA minerals.

TABLE 1 [2]

Comparative Federal Royalty Rates for Minerals Governed by the MLA

Commodity	Royalty Rates and Valuation Basis
Crude Oil	12.5% at the well head
Natural Gas	12.5% at the well head
Coal	12.5% of the gross value for surface mined coal and 8% for coal produced from underground mines
Phosphate	5% of gross value of the output of phosphates or phosphate rock and associated or related minerals
Sodium	2% of the quantity or gross value of the output of sodium compounds and related products at the point of shipment to market
Potassium	2% of the quantity or gross value of the output of potassium compounds and related products at the point of shipment to market
Sulfur	5% of the quantity or gross value of the output of sulfur at the point of shipment to market

The different royalty rates and valuation bases for the MLA commodities clearly demonstrates that a one-size-fits all royalty for leasable minerals is just as infeasible as it would be for hardrock minerals because leasable minerals have different geologic characteristics, processing requirements, and business parameters that must be considered in establishing a fair and workable Federal royalty—with the ultimate goal of producing royalty revenues for the Federal Government. Imposing the 12.5 percent royalty rate that works for oil, gas, and surface coal on the other leasable minerals (underground coal, phosphate, sodium, potassium, or sulfur) would make production of these minerals uneconomic and would produce zero royalty revenues for taxpayers.

The substantially lower royalty rates for sodium, potassium, and sulfur compared to the 12.5 percent oil and gas royalty reflect the different business parameters applicable to these leasable solid minerals versus those affecting production of oil and gas, which are classified and regulated as fluid minerals. Generally speaking, leasable solid minerals require more post-extraction processing to produce a marketable product. For example, in the case of sodium and potassium, the royalty is assessed on the value of the first marketable product produced from processing raw sodium and potassium ores or sodium and potassium brines.[3] Oil and gas are marketable commodities at the point of extraction (i.e., at the well head), without further processing.[4]

In contrast, there is no market for unrefined ores of sodium, potassium, or sulfur. These ores require post-extraction processing to make a marketable product. Therefore, the Federal royalty is assessed at the point of shipment—not at the point of extraction (the mine mouth). The royalty for these minerals is calculated on the

[1] Like coal, many hardrock minerals may be mined from underground or surface mines depending on the geologic characteristics of the specific deposit.

[2] https://www.law.cornell.edu/cfr/text/43/3504.21.

[3] Statement of Deborah Gibbs Tschudy, Deputy Associate Director, Minerals Revenue Management, Minerals Management Service, U.S. Department of the Interior, before the Senate Committee on Energy and Natural Resources, January 24, 2008.

[4] There is a worldwide market for crude oil and natural gas in their unrefined state. On May 24, 2019 the *Wall Street Journal* (page B7) listed the price for crude oil at $57.91 per barrel; the price for natural gas was $2.578 per one million Btu (MMBtu).

value of these minerals after certain processing costs have been deducted. The royalty rates for these minerals reflect the economics of producing these minerals and is assessed at a rate that sodium, potassium, and sulfur mining operations can withstand and still operate at a profit.

There is no commodity market for raw (crude) hardrock mineral ores as they are produced from the mine (i.e., at the mine mouth). Transforming raw gold ore from the gold-bearing rocks produced at a mine into salable doré or producing marketable base metal concentrates from base metal ores extracted from deposits of copper, zinc, lead, nickel, etc. requires costly mineral processing techniques performed at or near the mine site.[5] Because hardrock minerals have significant processing costs associated with these processing steps to produce a marketable product, a hardrock minerals royalty must allow deductions for these processing costs.

Every hardrock mineral deposit has unique mineralogy that requires deposit-specific metallurgical treatments to optimize mineral recoveries. Examples of hardrock minerals processing steps include crushing, grinding, milling, thickening, flotation, leaching, roasting, autoclaving, and gravity separation. Mining companies perform detailed metallurgical studies to determine the most efficient and economic processing techniques to maximize mineral recovery rates and typically invest hundreds of millions to billions of dollars to construct mining and mineral processing facilities. Given the substantial capital required to build hardrock mining facilities, a Federal hardrock royalty must be structured to allow deductions for the processing costs applicable to each mining operation.

Just as a uniform royalty rate under the MLA on leasable minerals is unfeasible, a single royalty rate for hardrock minerals would be similarly impractical. Compared to the solid leasable minerals, hardrock minerals are much more diverse in nature. (See the response to Question No. 3). Therefore, in the event Congress enacts a royalty on hardrock minerals, it needs to reflect the broad diversity of hardrock minerals and the costs associated with the various and numerous processing steps required to produce marketable products from the wide array of hardrock minerals. The different royalty rates for phosphate, sodium, potassium, and sulfur under the MLA reflect the variable business realities influencing mining and producing these minerals, which are substantially different than for coal, oil, and gas. Similarly, a hardrock Federal royalty must be structured to reflect the different economics of producing the diverse group of hardrock minerals that are governed by the Mining Law. A Federal hardrock royalty must accommodate the different business models applicable to each hardrock mineral commodity.

Question 2. Is the royalty system described in Chairman Grijalva's bill a useful way to achieve greater returns for the public?

Answer. The royalty system in Chairman Grijalva's bill is not a useful way to provide taxpayers with revenue from hardrock mining operations on Federal land. As explained in the response to Question No. 1, a hardrock mining royalty must account for the costs to produce a marketable mineral product like doré or concentrates, which is consistent with the way in which royalties are assessed on leasable minerals. The 12.5 percent gross royalty proposed in H.R. 2579 on "production or concentrates or products derived from hardrock minerals" is not comparable to the 12.5 percent net royalty assessed on marketable crude oil and gas at the well head, and is itself written in an ambiguous manner.

Hardrock mining royalties should allow deductions for the costs to process raw ore into a marketable product, which would be consistent with the way that the MLA assesses royalties on both fluid and solid leasable minerals that allow deductions to develop marketable products. Additionally, the high, uniform royalty rates of 12.5 and 8 percent in H.R. 2579 are not appropriate for hardrock minerals—just like the 12.5 percent royalty rate on oil, gas, and surface coal is not applicable to the other leasable minerals governed by the MLA.

The proposed H.R. 2579 royalty treats hardrock minerals differently than any of the leasable minerals for which certain deductions are allowed prior to calculating the royalty. There is no public policy rationale for assessing a hardrock mineral royalty in a radically different manner compared to the way in which royalties are assessed on leasable minerals. Hardrock minerals should not be subjected to a unique, unfair, and confiscatory royalty that disallows any deductions to make a salable mineral product.

---

[5] Most hardrock minerals must also undergo further processing at off-site smelters and refineries to produce finished product metals. But unlike the costs to refine oil and gas into consumer products like diesel and gasoline, which can be passed on to the consumer, the costs to refine metals into consumer products is not reflected in metals commodity prices.

As written, the H.R. 2579 royalty gives the Federal Government a financial interest in the costly investments that hardrock mining companies must make in order to produce a salable product. Not only is this inconsistent with the way in which the Federal Government treats leasable minerals, it is inappropriate.

A Federal hardrock royalty should be based solely on the government's ownership interest in the Federal hardrock minerals. It must not be expanded to include the mining companies' enormous investments in finding, mining, and processing minerals into marketable mineral products. Company costs for these value-added steps must be deducted from the royalty calculation. The Federal Government does not contribute anything to find, mine, and process hardrock minerals; these costs are borne solely by private-sector mining companies and should be excluded from the royalty valuation.

In assessing an appropriate Federal royalty rate for hardrock minerals, the total government take (state royalties, taxes, and fees) that are already imposed upon these minerals must be considered. As shown in Exhibit I, the American Exploration & Mining Association (AEMA) recently compiled statistics showing that the average hardrock mine operates with a very slim 3 percent profit margin (i.e., the difference between a mine's total costs and its total revenues). Obviously, mines operating with only a 3 percent margin cannot afford to pay a 12.5 percent royalty.

Roughly 40 percent of the revenue from hardrock mines goes toward paying state royalties and Federal and state fees and taxes;[6] 24 percent is spent on operating costs; labor costs consume the remaining 33 percent. The H.R. 2579 12.5 percent royalty takes a bigger bite out of the economic pie than most mining operations can sustain. Moreover, the economic pie cannot be easily reapportioned because existing state and Federal royalties, fees, and taxes are fixed costs; they cannot be readily reduced to accommodate payment of a new Federal royalty that exceeds the mine's profit margin.

The 2000 study entitled *"Global Mining Taxation Comparative Study (Second Edition)*[7] by Professor James Otto and others evaluated direct and indirect taxes and royalties on hardrock mining operations in 24 countries. This analysis showed that the projected government "take" in 2000 on a hypothetical medium-sized profitable Nevada gold mine was 49.3 percent. A similar projection for a hypothetical Arizona copper mine was 49.9 percent. In 2008, the testimony that Dr. Otto presented to the Senate Energy and Natural Resources Committee showed that many mineral-producing countries have a total government take in the range of 40 to 50 percent. Dr. Otto's work reveals that *even a small Federal royalty would make the U.S. less competitive for mining investment* because the total government take is already at the high end of the range and would exceed the 40 to 50 percent government take that is typical in mineral producing countries.

Imposition of the 12.5 percent royalty in H.R. 2579 would cause many mines to close because they would no longer be economic to operate. Obviously, mines that are forced to close due to the 12.5 percent royalty would generate zero Federal royalties. But the adverse economic impacts of the unrealistic and confiscatory royalty in H.R. 2579 would not be limited to the lack of Federal royalty payments. The premature closure of these mines would have a harmful economic ripple effect due to the substantial loss of high-paying mining jobs, state royalty payments, and the other local, state, and Federal taxes and fees associated with operating mines. Premature mine closures would also destroy the many indirect jobs that mining projects create. In rural mining communities, operating mines create essential economic engines that would grind to a halt as the H.R. 2579 royalty renders mining operations uneconomic to operate, forcing them to close.

Thus, the proposed royalty would create a significantly negative overall economic footprint that would harm mining communities and reduce local, state, and Federal revenues. As discussed in Question No. 4, the leasing provisions in H.R. 2579 would force claim forfeitures and divestments, expose the Federal Government to takings litigation associated with these forfeitures and divestitures, and eliminate claims maintenance fees and service charges which currently amounted to roughly $65 million in FY 2017,[8] further exacerbating the economic harm resulting from the H.R. 2579 royalty.

---

[6] Hardrock mining operations pay numerous state, local, and Federal taxes including but not limited to property taxes, sales and use taxes, payroll taxes, and corporate income taxes.

[7] Otto, Bataresh, and Cordes, Institute for Global Resources & Policy Management/Global Mining Taxation, March 2000.

[8] 2017 BLM Public Land Statistics, Table 3–25.

Question 3. Hardrock mineral commodities all have different price points and level of rarity. What would a single blanket Federal royalty do if applied to all these minerals in the same way?

Answer. A single, blanket Federal royalty for hardrock mineral commodities would be completely unworkable given the wide range of locatable minerals that are governed by the Mining Law and the different types of mining and processing techniques needed to produce marketable hardrock mineral commodities based on the widely varying orebody characteristics. Imposition of a uniform royalty—like the confiscatory 12.5 percent royalty in H.R. 2579—would make mining many hardrock minerals uneconomic. Most hardrock mineral deposits could not withstand a 12.5 percent royalty that does not allow any deductions for the costs to produce a marketable product. Because the H.R. 2579 royalty fails to take into account the differences between the various hardrock minerals in terms of mineralogy, processing techniques and costs, and the different points at which hardrock minerals become marketable products, it would lead to premature mine closures, would chill investment in exploration and mineral development, and lead to a substantial increase in the Nation's reliance on foreign countries for the minerals we need for our economy, infrastructure, technology, manufacturing, conventional and renewable energy, and national defense.

The increased reliance on foreign minerals that would result from H.R. 2579 would be completely inconsistent with President Trump's Executive Order 13817, *A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals*. This Executive Order directs the Secretary of Commerce, in coordination with heads of selected executive branch agencies and offices, to submit a report to the President to outline ways to reduce the country's reliance on foreign minerals. The U.S. Department of Commerce just published this report.[9]

The royalty, the onerous land tenure restrictions, and the unsuitability provisions in H.R. 2579 would completely thwart Call for Action No. 5 "Improve Access to Domestic Critical Mineral Resources on Federal Lands and Reduce Federal Permitting Timeframes" in the Department of Commerce's report. H.R. 2579 would interfere with this objective because the bill is designed to decrease access to hardrock minerals, many of which are critical minerals, by putting more lands off-limits to mining and creating additional permitting hurdles. Additionally, H.R. 2579 would render Call for Action No. 4, "Improve Understanding of Domestic Critical Mineral Resources" pointless. The research recommended to identify new domestic critical minerals resources would become a purely academic exercise on Federal lands given the barriers to exploration and development in H.R. 2579.

Compared to the solid, non-fuel leasable minerals (phosphate, sodium, potassium, and sulfur) hardrock minerals are much more numerous and diverse. The U.S. Bureau of Land Management (BLM) describes hardrock minerals as "includ[ing] most metallic mineral deposits and certain nonmetallic and industrial minerals"[10] and lists the following as examples of locatable minerals: copper, nickel, lead, zinc, cadmium, cobalt, gold, silver, garnet, uncommon-variety limestone or clay, platinum, palladium, quartz crystals, semiprecious gemstones, uranium, or other minerals.[11] Similarly, the U.S. Forest Service's long list of locatable minerals consists of: "base and precious metal ores, ferrous metal ores, and certain classes of industrial minerals that include but are not limited to gold, silver, platinum, copper, lead, zinc, magnesium, nickel, tungsten, bentonite, barite, fluorspar, uranium, and uncommon varieties of sand, gravel, and dimension stone."[12]

There is far greater diversity and complexity in all aspects of discovering, mining, and processing hardrock minerals compared to leasable minerals. Leasable minerals generally occur in sedimentary basins whereas hardrock minerals occur in a wide range of geologic terrains, which is one of the reasons that hardrock minerals are more difficult to find than leasable minerals. Additionally, hardrock mineral deposits have unique and site-specific geological, mineralogical, and metallurgical characteristics that require deposit-specific mine plans and processing facilities.

If Congress decides to establish a Federal hardrock mining royalty, the royalty must be structured to accommodate the complexities and diversity of mining and processing the broad list of hardrock minerals governed by the Mining Law. In order to avoid making hardrock mining on Federal lands economically infeasible, which

---

[9] https://www.commerce.gov/news/reports/2019/06/federal-strategy-ensure-secure-and-reliable-supplies-critical-minerals, A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals, June 4, 2019.

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

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

[12] https://www.federalregister.gov/documents/2018/09/13/2018-19961/locatable-minerals.

would cause a significant reduction in the production of hardrock minerals, a Federal hardrock royalty must account for the fact that the many different locatable minerals have unique characteristics that are reflected in the mining and processing techniques used for each specific hardrock mineral.

A Federal hardrock royalty must be responsive to the highly diverse business dynamics and economics applicable to each of the hardrock minerals. For example, mining operations for locatable uncommon varieties of sand, gravel and dimension stone are significantly different than underground mining operations for precious or base metals. The mining and processing techniques applicable to locatable uncommon varieties of sand, gravel and dimension stone differ substantially from what is required to mine and process ores of gold, silver, copper, and most other locatable minerals. A Federal hardrock royalty must not make production of the wide group of locatable minerals uneconomic by failing to account for the complexity, diversity, and variability of hardrock minerals.

Please see the response to Question No. 5 for a discussion of the relative rarity of hardrock minerals compared to leasable minerals—especially oil and gas.

Question 4. One of the major changes this bill would make is transitioning the General Mining Law from a claim system into a leasing system. It would allow an initial 20-year lease term, plus the option to renew for 10 years after that. Other minerals like coal seem to function with a leasing system. Why should hardrock be treated differently?

Answer. The elimination of the mining claim system and the forced conversion of mining claims into leases are especially problematic aspects of H.R. 2579. The H.R. 2579 leasing proposal attempts to impose a scheme appropriate for coal, oil, and gas onto hardrock minerals. The above-described geological and operational differences between coal, oil, and gas compared to hardrock minerals are the reason that a leasing system will not work for hardrock minerals.

The H.R. 2579 leasing provisions would destroy self-initiation, a unique aspect of the Mining Law that benefits the Nation by using private-sector investments to discover and develop domestic mineral deposits. Under the current Mining Law, U.S. citizens can enter Federal lands open to operation of the Mining Law and locate mining claims in areas they think have favorable geology for finding a mineral deposit. This self-driven process, known as self-initiation, greatly benefits our Nation because it effectively leverages private investments that transform undeveloped Federal land into mining operations that create jobs, pay taxes, and provide the minerals the country needs—at no risk or expense whatsoever to U.S. taxpayers.

The National Academy of Sciences estimates that 1,000 hardrock mineral targets must be identified and evaluated to discover a deposit that can become a mine.[13] This 0.001 odds makes finding mineral deposits a very difficult and high-risk endeavor that is expensive and time consuming.

Searching for the one-in-one-thousand needle in a haystack mineral deposit is an iterative process that makes self-initiation is critically important because it gives geologists the ability to expand their search for minerals and locate new claims—or to narrow their search and drop those claims on lands that no longer appear to have mineral potential. Each step in this process evaluates the available data to hone in on the mineral target. The exploration process requires having the on-the-ground flexibility to follow the geologic data to explore adjacent or new areas, to locate new claims on prospective ground, and to drop claims on lands that have been evaluated and determined to lack sufficient mineralization to meet that company's criteria to warrant further investment.[14] Self-initiation makes exploration possible because it supports the iterative process of looking for minerals to find mineral deposits that are very difficult to find.

This iterative process becomes impossible under a leasing system because the Federal Government determines where companies can and cannot look for minerals. Leasing substitutes the Federal Government's geologic acumen about where minerals are located for the private sector's knowledge and expertise. Rather than capitalizing upon the private sector's substantial understanding about where minerals may be located, the Federal Government becomes the initial prospector, without the benefit of any or much geologic data, and determines where companies may be allowed to look for minerals.

---

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

[14] It is not uncommon for claims that have been explored and dropped by one company to be re-located by a different company that will conduct additional exploration work with the hopes of discovering a valuable mineral deposit.

The government-as-prospector leasing system may work for leasable minerals like coal, oil, and gas, which are much more abundant than hardrock minerals and generally less difficult to find (i.e., have much higher and more predictable rates of discovery compared to hardrock minerals as discussed in more detail in Question No. 5). However, it is wholly inappropriate for hardrock minerals given their relative rarity. Prior to discovery, the specific location of hardrock mineral deposits is generally unknown, making them difficult to find and develop. Consequently, hardrock mineral exploration is a very risky business. The Federal Government is ill-suited for this high-risk endeavor and should not get into the hardrock exploration and development business, as required under the H.R. 2579 Federal leasing scheme.

In contrast, there are well-defined and well-understood vast geologic basins where coal, oil and gas are already known to occur such as the Powder River Coal basin in northeastern Wyoming and southeastern Montana or the vast Permian oil and gas basin in western Texas and southeastern New Mexico. A Federal leasing system for tracts of land in previously identified coal, oil, or gas provinces is feasible because the Federal Government already knows the location of the targeted resources. Moreover, because the odds of discovering additional oil and gas reserves in an established oil and gas or coal province are much higher than the one-in-one-thousand odds of discovering a hardrock mineral deposit, companies have an incentive to bid on and acquire Federal leases. (See the response to Question No. 5).

The H.R. 2579 lease term and acreage limits will create significant barriers to hardrock mineral exploration and development on Federal lands. The 2-year primary term for a prospecting license (i.e., an exploration lease) is completely unrealistic and inappropriate for hardrock minerals. Even with the allowable 4-year extension, the prospecting license term limit is much too short.

Discovering and developing a hardrock mineral deposit typically takes 10 years or longer, making hardrock mineral exploration a very risky and costly business. Depending on the deposit type and complexity of the geologic setting, exploration costs on the order of hundreds of millions of dollars are typical. (See Exhibit I). Hardrock mineral exploration will become even riskier and less attractive if an arbitrary and unrealistic term limit of 2 to 6 years is imposed on what is already a very high-risk endeavor. The H.R. 2579 exploration term limit will most certainly chill private-sector investment in exploring for minerals on Federal lands.

The amount of land that can be explored under an H.R. 2759 prospecting license is limited to an arbitrary 2,560 acres, which is the equivalent of just 128 20-acre mining claims. This limitation is inconsistent with the iterative mineral exploration process described above in which large target areas that may be comprised of several hundred to several thousand claims covering a broad area with mineral potential are initially examined, with each step of the exploration process vectoring toward a more defined and promising mineral target. The time and spatial constraints associated with the H.R. 2759 prospecting licenses will significantly reduce the likelihood of future mineral discoveries and chill investment in mineral exploration. This arbitrary acreage limit could precipitate adverse environmental consequences because it would eliminate the ability for companies to focus their efforts in areas in which they are already operating where there is existing infrastructure that could be used to expand an existing operation or develop a nearby, satellite deposit. Rather than capitalizing on existing facilities in a "brownfields" setting, this acreage limit would have the perverse effect of creating new disturbances in "greenfield" areas where the company does not have any leases or operations.

The H.R. 2579 leasing provisions compound the risks and add more disincentives to hardrock minerals exploration and development, which is already a high-risk business. Although successful prospecting licensees may apply for a 20-year noncompetitive mining lease, the Federal land management agencies (e.g., BLM or the Forest Service) have the discretionary authority to deny issuance of the lease. H.R. 2579 gives these agencies broad discretionary authority to deny lease applications, which puts a company's entire exploration investment under its prospecting license at risk. Because H.R. 2579 does not provide specific guidelines dictating when the agencies are authorized to deny a lease application, the bill creates a carte blanche opportunity for BLM and the Forest Service to withhold their consent to lease lands on which minerals have been discovered for mine development.

The very real possibility that the Federal Government may not grant leases for the minerals discovered under a prospecting license creates intolerable uncertainty that will completely chill mineral exploration and development in the United States. Companies will not be able to justify to their shareholders expenditures of the tens to hundreds of millions of dollars required to discover a valuable mineral deposit if there is no guarantee that they will have the right to develop the minerals they discover.

The 20-year primary term lease in H.R. 2759 is another serious barrier to mineral investment because it is not unusual for mines to operate for several decades. Without the assurance that a mine can continue to operate longer than 20 years, companies will be very reluctant to invest the hundreds of millions and sometimes billions of dollars needed to develop a mine. Similarly, financial institutions will be unwilling to finance mine construction.

Finally, it is important to understand that the arbitrary and unrealistic 20,480-acre per company per state leasing limit in H.R. 2759 will expose the Federal Government to takings litigation. This acreage limit, which is the equivalent of only 1,024 mining claims, fails to recognize that it is not unusual for mining companies to operate several mines in a state and own more than 1,024 mining claims. This is the case in Nevada and other mining states where several large mining companies operate multiple mines comprised of thousands of mining claims.

The H.R. 2579 leasing acreage restrictions will result in forfeitures of the private property rights on thousands of mining claims located within the boundaries of currently producing mining properties. There are no public policy benefits or justifications for this private property seizure, which will completely disrupt active mining operations. The acreage restrictions will precipitate numerous takings claims as the government forces the premature closure of viable mining operations or the divestiture of lands that are part of productive mining operations.

There is a compelling public interest in maintaining the mining claim system and self-initiation process, which capitalizes upon private-sector knowledge and investment to find and develop the minerals essential to American life. Under the current law, individuals and mining companies do the educated guesswork on where to spend private-sector resources to look for minerals and in exploring for minerals. The Federal Government is ill-suited to identifying prospective mineral targets.

Ironically, the stated purpose of H.R. 2579 is "[t]o modify the requirements applicable to locatable minerals on public domain lands,[15] consistent with the principles of self-initiation of mining claims . . ." Nothing could be further from the truth because H.R. 2579 completely destroys self-initiation by abolishing future mining claims and forcing the conversion of existing mining claims into leases.

Finally, the paucity of operating mines and mineral exploration programs on acquired Federal lands provides compelling evidence of the chilling effect that a Federal leasing system has on hardrock minerals exploration and development. Despite the fact that Federal acquired lands in Missouri, Minnesota, and elsewhere have significant—even world class[16]—mineral endowments, mineral exploration and production from these lands is very limited. The current minerals leasing program for acquired lands is failing to achieve the basic purpose of a Federal royalty program, which is to generate revenue from mineral production on Federal lands.

The H.R. 2579 Federal leasing program would similarly fail to produce meaningful royalty payments from mining on Federal lands open to location under the Mining Law in the western United States. There would be no public policy benefits or justification for replicating the failing leasing system for acquired lands on western Federal lands.

Question 5. How difficult are these resources to find, exactly? How much yield is there mining for hardrock minerals than for coal, for example?

Answer. As discussed in the response to Question No. 4, the National Academy of Sciences has found that it is necessary to examine 1,000 hardrock mineral targets in order to discover a mineral deposit that can ultimately be developed into a profitable mining operation. These one-in-one-thousand (1:1,000) odds of discovering a viable hardrock mineral project stand in stark contrast to the relative ease with which hydrocarbons are discovered. The oil and gas industry uses a rule of thumb that 1 in 10 wildcat oil and gas exploratory wells will successfully discover hydrocarbons.[17] This high rate of discovery of oil and gas resources reflects the predictable geology in the sedimentary basins that contain most of the world's hydrocarbon reserves. The geologic conditions that are very favorable locations for discovering and producing hydrocarbons in sedimentary basins like the Permian and Williston basins are relatively well understood because these basins have already been

[15] It should be noted that H.R. 2579 targets public lands in the western United States that are open to operation of the General Mining Law (30 U.S.C. 21a *et seq*)—not public domain lands which are not subject to the General Mining Law.

[16] The Duluth Complex on the Superior National Forest in Minnesota contains very large copper, nickel, and platinum group mineral deposits that are truly world class.

[17] Not every wildcat well that discovers hydrocarbons will be economic to develop.

extensively drilled and have comparatively simple geology in contrast to hardrock minerals.

BLM's statistics show there is a high discovery rate for oil and gas resources on Federal leases. According to BLM, Federal oil and gas leases covered roughly 26 million acres at the end of FY 2018. Nearly half of these leased areas—12.8 million acres—produce oil and gas in economic quantities.[18]

Comparing the footprint of hardrock mineral activities for exploration, development, and mining on Federal lands with Federal lands where oil and gas is being produced vividly demonstrates that hardrock mineral deposits are much rarer than oil and gas deposits. BLM's statistics show that at the end of FY 2017, mining claims covered only about 8 million acres[19]—less than one-third the footprint of the Federal lands leased for oil and gas. Using the footprints of Federal oil and gas leases and mining claims as proxies for the distribution and frequency of occurrence of oil and gas compared to hardrock minerals, it is evident that oil and gas resources are much more abundant and widespread than hardrock mineral resources.

Active mineral exploration and mining projects are taking place on just a small fraction of mining claims. BLM's data show that the agency has authorized surface-disturbing mineral exploration, development, and mining activities on a mere 313,042 acres, which represents less than 4 percent of the area covered by mining claims.[20] This small mineral activity footprint reflects the rarity of hardrock mineral deposits—hence the one-in-one thousand odds of making a discovery. Oil and gas, on the other hand, are much easier to discover, as the production statistics from Federal leases show, with producing wells on roughly half of the acres currently subject to Federal leases.

It's also important to understand the different economics and time frames associated with oil and gas exploration and development compared to hardrock exploration and mining. Once an exploratory well is drilled into an oil and gas field, the wildcat well can be readily retrofitted into a production well from which marketable crude oil or natural gas can be produced. Subsequent wells drilled into the same oil and gas deposit have a high probability (greater than 1 in 10 chance) of being productive. Similarly, discovery of a coal deposit is relatively easy given the abundance of coal. Coal seams typically have continuity and predictability.

In contrast to oil and gas wildcat wells that can be transformed into producing wells, hardrock mineral exploration drill holes cannot be turned into a mine. A drill hole that discovers hardrock minerals is just the start of a time-consuming and expensive process to drill many other holes to confirm the presence of a mineral deposit of sufficient size and grade to warrant development of the mine. Even though geophysical surveys, geological mapping, sampling, and drilling provide important information that may help identify that one-in-one thousand project that can become a mine, they do not guarantee discovery of a viable mineral deposit. Companies spend tens to hundreds of millions exploring for minerals with no guarantee that their efforts will discover a deposit that can be developed into a mine. If the exploration data and engineering studies are favorable enough to warrant the decision to build a mine, an enormous investment on the order of hundreds of millions to billions of dollars will be required to design and construct the mine and associated mineral processing facilities.

As discussed in the response to Question No. 1, numerous processing steps are required to produce a marketable product like metal concentrates or doré from the hardrock mineral ores that are extracted from the mine. In contrast, leasable minerals like coal, oil and gas require comparatively less processing to produce a marketable product. Additionally, hardrock mineral ores contain only small concentrations of valuable metals. The processing steps are required to separate the metals from the ore (the rocks that contain the metal). As shown in Exhibit I, 300 tons of coal coming out of the ground at a mine has an immediate value at the mine mouth because nearly all of the produced coal is marketable, requiring relatively little processing. In contrast, 300 tons of gold ore coming out of the mine is comprised of rock that contains a very small amount of gold. This gold ore must be processed in order to separate the gold from the rock. Thus the "yield" from raw, unprocessed hardrock mineral ores is much smaller than the yield from coal at the mine mouth or crude oil and gas at the well head.

---

[18] https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/about.

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

[20] March 2019 LR 2000 database showing acres of authorized surface disturbance for mineral exploration, development, and mining on BLM-administered lands.

The gold ores produced at surface gold mining operations typically contain less than one-tenth of an ounce of gold for every ton of rock mined (a grade of <0.1 ounces of gold per ton). Many surface gold mines produce gold from exceptionally low-grade gold ores that contain hundredths of ounces of gold (i.e., gold grades of less than 0.09 ounces of gold per ton). Other hardrock minerals comprise similarly small fractions of the rocks in which they are found.

Question 6. What contributes to the total average costs of starting up a mine before production can start? Where do those expenses mostly come from?

Answer. It is not practical to provide a total average cost of starting up a hardrock mineral mine due to the diversity of hardrock minerals. Because each hardrock mineral deposit has unique geological and metallurgical characteristics, mine plans and processing plants must be custom-tailored to fit that deposit. Additionally, site-specific environmental conditions such as the proximity to surface water and groundwater aquifers or the presence of important wildlife habitat or cultural resources will influence the mine design. The goal is to engineer mining and mineral processing operations to optimize economic returns and minimize capital and operating costs and environmental and social impacts.

Therefore, there is no such thing as an average mine, which is the reason why the royalty base (the valuation upon which a Federal hardrock mineral royalty is calculated) must consider the costs driven by this diversity and complexity. No two mines will have identical startup or operating costs.

Despite the wide range of factors that contribute to startup and operating costs, it is possible to offer some generalizations. Startup costs for locatable industrial minerals and the uncommon varieties of sand, gravel and dimension stone that are considered locatable minerals will be considerably less than the startup costs for hardrock metals mines. Generally speaking, industrial minerals and uncommon varieties will be located at or near the ground surface and can be mined using simple surface mining techniques. Typically, these minerals do not require complex processing to make a marketable product. Examples of processing necessary for these minerals include washing, sorting, sizing, screening, and packaging. Some industrial minerals may also require crushing.

On the other end of the spectrum, deeply buried metallic mineral deposits[21] must be mined using underground mining techniques and require expensive processing to separate the metals from the ore (metals-bearing rocks). Development of an underground mine takes an enormous investment of capital. Similarly, processing facilities are very costly to develop—especially if they involve numerous processing steps such as crushing, grinding, flotation, leaching, roasting, and autoclaving. The design of a mineral processing facility will depend on the mineralogical and metallurgical characteristics of the deposit, which will be unique to that deposit. Generally speaking, underground hardrock mineral deposits that require complex mineral processing will have the most expensive startup costs.

The startup costs to develop a surface mine will typically be less than the costs associated with developing an underground mine. The mineral processing costs at surface mines will depend on the mineralogy and metallurgy of the deposit being mined. Deposits of oxidized or partially oxidized precious metals or copper may be processed using heap leaching techniques, which are generally less expensive to build and operate than a milling facility. However, many surface mining operations produce ores that require many or all of the above-described processing steps to produce a marketable product. For example, some of the large surface gold mines in Nevada have complex milling facilities that have roasters and autoclaves in addition to crushing, grinding, leaching, and flotation components.

Startup costs in the range of hundreds of millions of dollars are fairly typical for mid-sized surface metallic mineral mines that do not require complex mineral processing facilities. However, much higher startup costs—on the order of several billions of dollars—are required for large surface or underground mining operations that need complex mineral processing facilities.

The substantial investment of capital required to start a hardrock metal mine is one of the key reasons that the H.R. 2579 leasing scheme is unworkable. In order to secure financing to build a multi-million or billion dollar mine, mining companies and their lenders must have security of tenure to assure that the mine and mineral processing facilities can continue to operate during the projected mine life in order to amortize the investment required to build the mine. The limited leasing time frame in H.R. 2579 (a 20-year primary term with the possibility—but not the guarantee—that the mine can continue to operate longer than 20 years) will make

[21] Underground mines may be developed several hundred to several thousand feet below the ground surface, with some deposits being as much as 1 mile underground.

financing large mines with mine lives that exceed 20 years very difficult if not impossible.

Lenders will be very reluctant to provide the necessary capital to build mines if there is uncertainty about whether the mine can continue to operate past the primary lease term. It is not uncommon for large base metal and some precious metal deposits to be developed into mines that operate for decades. Thus the 20-year leasing term limit in H.R. 2579 will likely thwart the future development of these deposits, which otherwise would be some of the Nation's most important mineral resources. Most mines continue to operate so long as it is economic to stay in operation.

Question 7. What state and Federal regulations must hardrock operations follow today?

Answer. The panoply of Federal environmental statutes that protect the Nation's environment apply to mining in the same way they apply to all other industries. There are no mining exceptions or exemptions. Federal statutes applicable to mining include but are not limited to the National Environmental Policy Act, the Endangered Species Act, the Clean Air Act, the Clean Water Act, the Safe Drinking Water Act, the Toxic Substances Control Act, the National Historic Preservation Act, Archaeological Resources Protection Act, the Migratory Bird Treaty Act, the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, and the Emergency Planning and Community Right to Know Act. In addition to these universally applicable environmental laws, the Federal Land Policy and Management Act (FLPMA) governs mineral activities on BLM-administered public lands. The Forest Service's Organic Administration Act applies to mining on National Forest System lands.

FLPMA mandates that all activities on public lands—including mineral activities conducted pursuant to the U.S. Mining Law—must prevent unnecessary or undue degradation (UUD). BLM's 43 CFR Subpart 3809 surface management regulations for hardrock minerals implement the FLPMA mandate to prevent UUD. The 43 Subpart 3809 regulations include detailed environmental performance standards to protect air quality, surface water, groundwater, wildlife habitat, cultural resources, visual resources, and other resource values.

Under the authority of the Organic Administration Act, the Forest Service has developed the 36 CFR Part 228 Subpart A surface management regulations for hardrock mining. 36 CFR § 228.8 establishes the environmental protection standard which requires mining activities to minimize adverse impacts on National Forest System lands including air and water quality, scenic values, and wildlife and fisheries habitat. BLM's and the Forest Service's surface management regulations require reclamation and financial assurance before surface-disturbing activities can begin. In Nevada, the country's largest gold mining state, BLM and the Forest Service co-manage over $2.8 billion in reclamation bonds for hardrock mineral projects.

All of the western states with lands open to location under the U.S. Mining Law have enacted laws and implementing regulations specifically applicable to hardrock mining. Generally speaking, these laws and regulations establish environmental protection, reclamation, and financial assurance requirements that apply to hardrock mineral activities on both Federal and private lands. Table 2 is a partial list of the state laws governing hardrock mineral exploration and mining projects.

TABLE 2

Partial List of State Laws Governing Hardrock Minerals

State	Mining Statutes
Alaska	Alaska Mining Statute, AS Title 27
Arizona	Arizona Mined Land Reclamation Act, Ariz. Rev. Stat. Ann. §§ 27–901 through 1026
	Aquifer Protection Permit (APP), Ariz. Rev. Stat. Ann. §§ 49–241 through 252
California	California Surface Mining and Reclamation Act Public Resources Code, Sections 2710–2796
	Porter Cologne Water Quality Control Act, California Water Code Section 7
Colorado	Colorado Mined Land Reclamation Act, Title 34 Mineral Resources, Article 32

Partial List of State Laws Governing Hardrock Minerals—Continued

State	Mining Statutes
Idaho	Idaho Surface Mining Act, Idaho Code Title 47, Chapter 15
Montana	Montana Metal Mine Reclamation Act (''MMMRA''), Montana Code Annotated (''MCA'') §§ 82–4–301 through 390
Nevada	Nevada Revised Statues 445A.300–445A.370, Water Pollution Control
	Nevada Revised Statutes 519A.010–519A.280, Reclamation of Land Subject to Mining Operations or Exploration Projects
New Mexico	New Mexico Mining Act of 1993, (69–36–1 to 60–36–20 NMSA 1978)
	New Mexico Water Quality Act (NMWQA), Chapter 74
Oregon	Oregon Mined Land Reclamation Act, OAR Chapter 632, Division 037
Utah	Utah Code Title 40, Mines and Mining—Chapter 8, Utah Mined Land Reclamation Act (''UMLRA'')
	Utah Code Title 19, the Environmental Quality title, Chapters 01–06, and 08
	Utah Code Title 73, Chapter 5a
Washington	Washington Metals Mining and Milling Act (''WMMMA''), Revised Code of Washington (''RCW'') Chapter 78.56 §§ .010–902
Wyoming	Wyoming Environmental Quality Act (''WEQA''), Wyo. Stat. § 35–11–401, Article 4, Land Quality

As a result of these laws and regulations, modern mining operations are designed, operated, and closed to protect the environment—in marked contrast to historic mines developed long before enactment of today's environmental protection mandates. Mining companies devote considerable resources to ensuring compliance with all applicable local, state, and Federal environmental protection requirements.

State and Federal environmental permits include extensive site monitoring and reporting requirements to document that a mine is operating properly and complying with all regulatory requirements. These environmental monitoring systems and reporting requirements act as real-time, early warning systems that provide regulators and operators with indicators of a possible problem. If project monitoring data indicate there may be an environmental issue, state and Federal regulations compel the operator to investigate the potential problem and remediate the problem if one is discovered. The monitoring systems at today's highly regulated mining operations provide meaningful information about the performance of the site's environmental controls. If the monitoring data suggest there may be a problem that needs to be evaluated, state and Federal regulators have all of the necessary regulatory and enforcement tools to require the operator to respond to the problem with investigatory and remediation measures.

Question 8. How would you characterize the environmental protections in the United States, compared to other major producers of critical minerals in the world, such as China? How about Africa?

Answer. As discussed in the response to Question No. 7, the United States has comprehensive and effective Federal and state environmental protection regulations governing all industries as well as regulations specific to mining. The United States also has extensive worker safety laws and regulations. Mining companies follow the mantra of "Safety First." Mining companies place a great deal of importance on ensuring safe working conditions at their sites and on complying with all environmental protection requirements. Unfortunately, China, African countries, and other foreign countries do not have similarly stringent environmental and health and safety regulations.

For example, the *Washington Post* reports significant pollution at Chinese graphite mines.[22] Graphite is used to manufacture the lithium batteries that power cell phones and countless other electronic devices including electric vehicles. As noted

[22] https://www.washingtonpost.com/graphics/business/batteries/graphite-mining-pollution-in-china/.

in the *Washington Post* the Chinese graphite mines operate under "lax environmental controls and produce old fashioned pollution." According to the *Washington Post*, the world's demand for lithium-ion batteries to power smart phones, laptops, and electric vehicles comes at "a steep cost." Villagers living near the Chinese graphite mines face dirty air, damaged crops, and polluted drinking water due to operation of these mines. The *Washington Post* states that Chinese officials do not enforce environmental regulations and "are inclined to look the other way to benefit a major employer."

Similarly, *Radio Free Asia* reports that "Chinese-operated mines in Lhundrub County have caused "severe" damage to local forests, grasslands, and drinking water. Waste from the mines, in operation since 2005, "has been dumped in the local river, and mining activities have polluted the air."[23]

The worldwide demand for the cobalt used in lithium-ion batteries is partially met from mines in the Congo, which employ child labor and operate with little or no environmental or worker health and safety controls. The *Washington Post* reports that cobalt mining in the Congo is performed by workers, including children "who labor in harsh and dangerous conditions . . . with little oversight and few safety measures. Deaths and injuries are common." These mining operations "expose local communities to levels of toxic metals that appear to be linked to ailments that include breathing problems and birth defects."[24]

According to the *Washington Post*, lithium mining operations in Chile and Argentina used vast quantities of water to process lithium from deposits located in the high-elevation Atacama region—a high-altitude desert. Some of these operations provide paltry benefits to the indigenous Atacamas communities where they are located.[25]

In contrast to these unfortunate problems in countries with inadequate regulations or poor enforcement of their regulations, mining companies operating in the United States devote enormous resources to complying with the stringent environmental protection laws and regulations discussed in the response to Question No. 7. Besides protecting the environment at their mine sites, mining companies operating in the United States are also committed to maintaining and enhancing their social licenses to operate. Many companies have corporate social responsibility programs that require meaningful interaction with the communities in which they mine to ensure that their mines are responsive to the culture and social fabric of the community as well as provide economic benefits.

Question 9. What kind of NEPA process do mining projects have to go through before mining can begin?

Answer. The NEPA process for proposed mineral exploration and mining projects on BLM-administered public lands and on Forest Service-administered National Forest System lands is identical to the NEPA process for any other project that is determined to be a major Federal action that requires a NEPA analysis. Both BLM and the Forest Service must prepare thorough NEPA documents to analyze and disclose the potential environmental impacts associated with proposed mineral activities. Generally speaking, the agencies prepare an Environmental Assessment (EA) in response to a proposed mineral exploration project and an Environmental Impact Statement (EIS) for a proposed mining operation.

BLM and Forest Service NEPA documents must comply with the Council on Environmental Quality (CEQ) regulations implementing NEPA at 40 CFR §§ 1500–1508. BLM prepares NEPA documents in accordance with its NEPA Handbook (H-1790-1). The Forest Service NEPA documents follow the NEPA procedures outlined in its NEPA rules at 36 CFR § 220.[26]

The NEPA documents for proposed mineral exploration and mining projects have the same structure and content as NEPA documents prepared by Federal agencies for all types of proposed projects and include the following chapters: Purpose and Need; the Proposed Action and Alternatives to the Proposed Action; Affected Environment, which is a detailed discussion of the environmental setting of the Project Area and surrounding lands; Environmental Consequences, which presents a thorough analysis of the direct, indirect, and cumulative impacts that could result from the project; Consultation, which lists the tribes, agencies, organization, and

---

[23] https://www.rfa.org/english/news/tibet/mines-05062013154914.html.

[24] https://www.washingtonpost.com/graphics/business/batteries/congo-cobalt-mining-for-lithium-ion-battery/.

[25] https://www.washingtonpost.com/graphics/business/batteries/tossed-aside-in-the-lithium-rush/.

[26] The Forest Service published an Advanced Notice of Proposed Rulemaking on January 3, 2018 seeking public comments on how the efficiency of the 36 CFR 220 NEPA rules could be improved.

individuals contacted during the NEPA process; Preparers, which shows the agency and third-party personnel who prepared the document; and References Cited.

Like NEPA documents prepared for non-mining projects, BLM and Forest Service NEPA documents for mineral exploration and mining projects are used as decision tools to assist the agencies in evaluating a proposed mineral project and alternatives to the project proponent's project proposal (the Proposed Action) that would minimize or even eliminate environmental impacts. During the NEPA process, BLM and the Forest Service identify and analyze project alternatives like different locations for certain mine facilities that may mitigate environmental impacts. Based on this alternatives analysis process, BLM and the Forest Service select an Agency Preferred Alternative and identify an Environmentally Preferred Alternative, both of which may differ from the Project Proponent's Proposed Action.

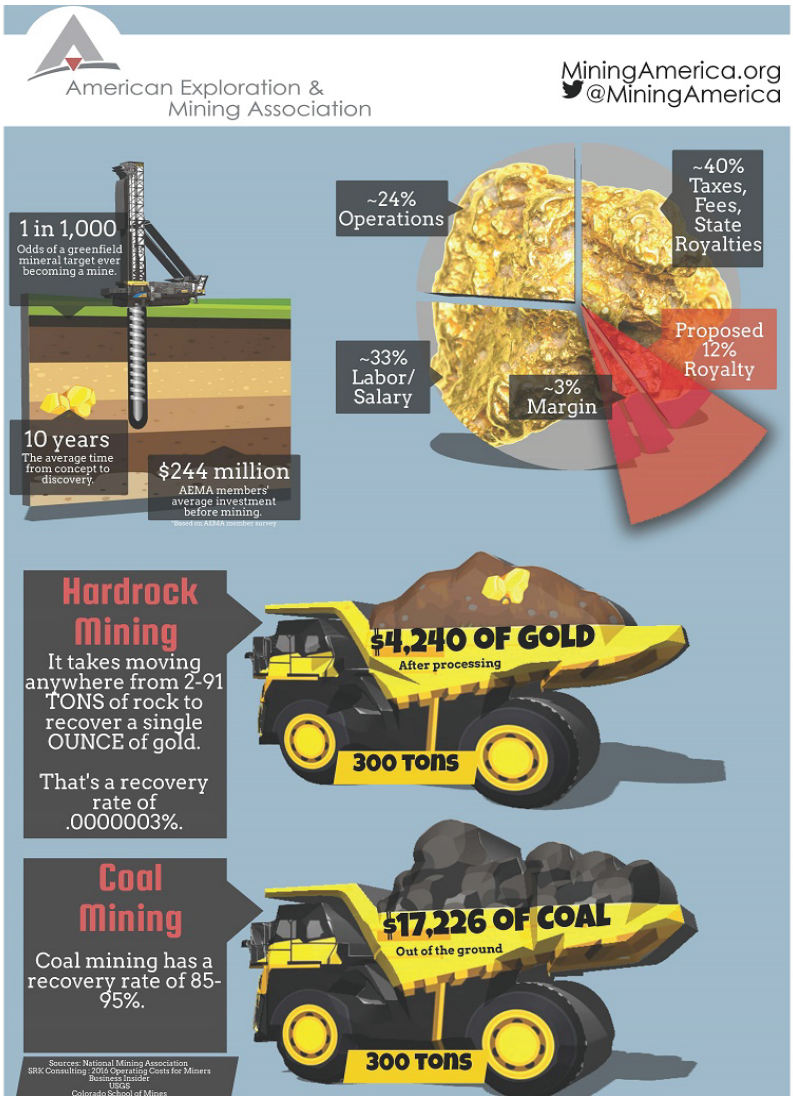
The CEQ regulations require mitigation measures to avoid or minimize adverse environmental impacts. (See, for example 40 CFR 1502.14 and 1502.16). This mitigation requirement applies to all types of proposed projects including mineral exploration and mining projects. BLM and the Forest Service use the NEPA alternatives and environmental consequences analyses to evaluate ways to avoid and minimize environmental impacts. This aspect of the NEPA process is integrated into the agencies' assessment of whether a proposed mineral project complies with the environmental performance standards in each agencies' surface management regulations for hardrock minerals (e.g., BLM's 43 CFR Subpart 3809 and the Forest Services' 36 CFR Part 228 Subpart A regulations).

The NEPA process for proposed mineral exploration and mining projects includes public involvement that must comply with the public scoping requirements in 40 CFR § 1506.6 to seek public comments on a proposed action. The EIS process includes a minimum of three opportunities for the public to provide comments on a proposed project during initial project scoping, on the Draft EIS, and on the Final EIS.

The NEPA process is also applicable to hardrock minerals on acquired lands. Federal agencies must prepare NEPA documents in conjunction with issuing Federal leases for mineral exploration and development. Even initial exploration on acquired lands requires a lease and an associated NEPA analysis, which is typically a time-consuming process. It can take years of permitting and lease negotiation before initial exploration for minerals on acquired lands can begin. This is another reason why a leasing system is problematic and an extremely inefficient way to manage the Nation's mineral resources. The self-initiation process under the mining claim system on lands subject to the Mining Law allows initial exploration activities like geologic mapping and other activities that do not involve disturbing the land to take place without a time-consuming permitting process.

EXHIBIT I


The American Exploration & Mining Association is the leading voice for public lands access. We advocate for the issues most important to minerals mining in the U.S.
American Exploration & Mining ASSOCIATION
Mining Law Briefing
• Repealing 147 years of interpretation & precedent is bad public policy and results in decades of uncertainty & litigation.
• Mining is the most regulated, yet most important industry to modern society, especially rural communities.
• The Mining Law has, does, and will continue to responsibly manage access to public lands, to meet the multiple-use obligations mandated by Congress.
• Strong domestic mining is critical for our nation's manufacturing, infrastructure, & national defense.
Road to Mining Paved with Regulations
Clean Air Act
Clean Water Act
MSHA
NEPA
ESA
NHPA
FLPMA
Watch for State Regulations
+ Dozens More
Mark Compton
mcompton@miningamerica.org
509.624.1158
Matthew Ellsworth
ellsworth@miningamerica.org



Dr. LOWENTHAL. Thank you, Mr. Comer.

I would like to thank the panel for your testimony. And I want to remind the members of the Committee that Committee Rule 3(d) imposes a 5-minute limit on questions. I am now going to recognize Members for any questions they may wish to ask the witnesses.

I recognize first Representative Cunningham for 5 minutes.

Mr. CUNNINGHAM. Thank you, Mr. Chairman, and thank you to our witnesses for being here today. Thank you for traveling to testify. And it might be surprising that anyone from South Carolina would care much about a bill that deals largely with gold and

copper mining on Federal lands. You would think that is just an issue for Nevada. Right?

Except that it is not. I had my staff look into it, and we found at least three hardrock mining Superfund sites in the state of South Carolina. And it is possible that there are responsible parties that are paying for the cleanup of all three of these. But it is also possible that they are not and the taxpayers of South Carolina will be forced to foot that bill. Either way, the point is that abandoned hardrock mines are not simply a Western issue. They are an American issue.

A little over 40 years ago, Congress came together on a bipartisan basis to create a program, the Abandoned Mine Land program, to deal with abandoned coal mines. And Congress rightly acknowledged that the industry had a responsibility, a duty, to help address environmental and safety hazards that it had spent well over a century creating.

We can do the same thing for hardrock mines as well. Every state has them, from coast to coast. But unlike coal mines, states get virtually no money from the Federal Government to help clean them up. Citizens of every state deserve to not be exposed to the toxic remains of old mines. These sites need to be cleaned up faster and with less of a burden on the taxpayers.

And this is not a Republican issue or a Democratic issue. This is about fairness, it is about health, it is about safety—issues that are priorities for both sides of the aisle. So, I want to thank Chairman Grijalva for introducing this bill. I want to thank Chairman Lowenthal for holding this hearing. And I want to thank the witnesses again for taking the time to be here and explain their views on this very important and critical issue.

And with that, I would yield back the balance of my time.

Dr. LOWENTHAL. Thank you, Representative Cunningham.

I would now like to recognize Representative Hern for 5 minutes of questioning.

Mr. HERN. Thank you, Mr. Chairman, Ranking Member Gosar, and our witnesses for being here today to testify.

Hardrock mining provides essential materials that are used in several industries across the country, including much of our high tech equipment. However, the majority of our supply of critical minerals comes from abroad, mostly from China. Because of this, any restriction on our ability to mine these materials would hamper our industries and their growth, and make us reliant on foreign materials.

Mr. Comer, as someone who is considered a leading authority in natural resource permitting and compliance issues, and on your testimony today, I would like to just ask you—it is going to be a pretty short answer, I would think. But I would like to get to my colleague here from the mining world.

Would you agree that this bill will have a huge negative effect on the mining industry in the United States, and gravely impacting our ability to develop renewable energy sources, and in fact, driving the Green New Deal cost even higher than the ridiculous estimates of $93 trillion that are already being accepted across the industry?

Mr. COMER. Would you like an answer as simple as “Absolutely”?

Mr. HERN. Absolutely. You can expound a little bit.

Mr. COMER. Well, the impacts and the implications will be several-fold. It will greatly impede existing mines, their continuation, their operation, and their development. And it will impair the ability to acquire new mineral resources. And the United States has substantial mineral wealth. One of the things that we have not heard about today is some of the differences in mining today versus 100 years ago.

I look at the mural in the room, and that is a technology for a bygone era.

Mr. HERN. Mr. Comer, I am going to ask you to hold the rest of that thought. I have a feeling you are going to be asked a few more questions, and I want to yield the balance of my time to my colleague from a mining part of the country.

Mr. STAUBER. Thank you, Congressman Hern, for giving me some of your time.

Chairman Lowenthal and Ranking Member Gosar, mining defines Minnesota's past, present, and its future. So, I appreciate this opportunity to appear on this panel because I fear these proposed hardrock mining reforms would disincentivize any mining and irreversibly damage Minnesota's economy.

The first bill I introduced, the Superior National Forest Land Exchange Act, it codifies the land transfer that occurred last July between the Forest Service and PolyMet Mining. This bill passed the House last Congress under my predecessor former Representative Rick Nolan's leadership with broad bipartisan support, including, Mr. Chairman, your support along with four other Democrats sitting on this Subcommittee.

Mr. Comer, thank you for appearing today to discuss the crucial issue involving Minnesota. The Iron Range in my district produces the iron ore used to build America and help us win World War II. The economy on the Range is volatile. It ebbs and flows with the price of steel, and is constantly threatened by cheap iron ore from international competitors lacking any environmental or labor standards.

Mr. Comer, how would instituting the proposed royalty and shift to a leasing system affect iron ore mining and steel production?

Mr. COMER. It would have a major devastating effect on the ability to acquire new sources of iron ore in the Rocky Mountain West. And to this date, there still are no mines that have been developed under a leasing system in the Upper Midwest. These are different types of properties, the existing industry and the new industry, where it is developed with more Federal mineral. But we have not developed yet. We are still trying to after years and years of permitting and compliance activities.

Mr. STAUBER. Thank you. Along with iron ore, there are two proposed copper nickel projects in northeastern Minnesota. The PolyMet Project surpassed all environmental standards, taking an incredible 14 years. Other countries mining copper and nickel have very little to no environmental standards.

Mr. Comer, how can places like northeastern Minnesota compete internationally under this proposed legislation?

Mr. COMER. It would be very difficult, both in Minnesota and throughout the West. Land tenure, mineral tenure will be lost. It will be devastating, and I am not a "sky is falling" type person.

Mr. STAUBER. Neither am I. Thank you for answering those questions, Mr. Comer, and for your testimony.

My next question will be to Commissioner Lachelt. Commissioner, I appreciate your service as a County Commissioner. I too came from the County Commissioner realm, so I appreciate what you are doing and understand what you are going through. Thank you for testifying today.

You listed clean, renewable energy as a priority. And continued energy diversification requires elements like copper, nickel, and iron ore. I want to ask you this: Would you rather power your county with elements harvested in places like northern Minnesota, who have strict environmental and great union labor standards? Or do you prefer to receive these elements from places that lack union labor and environmental standards like Brazil, China, and Russia?

Ms. LACHELT. Sir, thank you for the question. And I think it is really important to honor the past. Our mining history in my part of the world, we honor how our region came to be, and the economy that it helped build. But we need to look to the future. And we work with a lot of solar companies in our region——

Mr. STAUBER. Commissioner, I have to yield my time back to Representative Hern.

Dr. LOWENTHAL. Yes. You will get your opportunity again. you will be next, Mr. Stauber.

Mr. STAUBER. Thank you, Mr. Chairman. Appreciate it, and yield back.

Dr. LOWENTHAL. But no filibusters.

[Laughter.]

Dr. LOWENTHAL. Next I would like to recognize Congresswoman DeGette for 5 minutes.

Ms. DEGETTE. Thank you so much, Mr. Chairman. Thank you for holding this hearing. I want to welcome my homies, Commissioner Lachelt and also Mr. Comer, from Colorado. And I want to apologize for toggling in and out. In the other Subcommittee on this Full Committee, we are having a hearing down the hall on wildfires, another huge issue for our state. I really want to thank you for coming.

I want to start with you, Commissioner Lachelt, about the issue of cleaning up abandoned mines because, as you know, Colorado has one of the largest inventories of abandoned hardrock mines. And we were surely reminded of that when we had the Gold King Mine blow out in 2015. We all saw those pictures. It turned the rivers bright yellow and released about 3 million gallons of toxic wastewater.

And in the meantime, according to an AP report from February, abandoned mining sites like Gold King are leaking 50 million gallons every single day into streams and rivers like groundwater supplies. And that is just from the sites that the AP looked at, so that is a floor and not a ceiling.

I want to ask you, Ms. Lachelt, as a County Commissioner of southwestern Colorado, I know you have done a lot of wonderful work advocating the cleanup of these hardrock mines. Can you tell

me what we know about the scale of the problem? What is the estimated cost for this cleanup?

Ms. LACHELT. Thank you, Representative DeGette. It is estimated that there are over 500,000 abandoned mines across the country, and the EPA estimates that clean-up costs could come in somewhere around $50 billion.

Ms. DEGETTE. Fifty billion dollars?

Ms. LACHELT. Yes.

Ms. DEGETTE. And where is that money going to come from to clean up those mines?

Ms. LACHELT. From the taxpayers.

Ms. DEGETTE. Right. And do you think that if we don't have a dedicated hardrock abandoned mine land fund, we could ever come close to cleaning up the scale of contamination?

Ms. LACHELT. We need a dedicated source of funding in order to do this cleanup.

Ms. DEGETTE. Yes. We can't do it without it, I don't think.

Ms. LACHELT. Exactly.

Ms. DEGETTE. Let me turn to you, Mr. Davis, because one of the features of the Mining Law of 1872 is that a company can freely mine on Federal lands, extract the minerals it wants, and then it doesn't have to clean up after itself or pay a royalty to American taxpayers.

In your testimony, you identified the lack of royalties as one of the biggest problems with the Mining Law of 1872. Do you think it is fair, as a small businessman, that hardrock mining companies don't pay any royalties for mining Federal lands?

Mr. DAVIS. I don't think it is fair at all. I think it sets up a great inequality. I think there are so many other industries, such as oil and gas that do, but so does logging, so does agriculture. In my craft, there are so many standards I have to meet and so many regulations I have to meet. And they are all a cost to me. And when those costs change, I adapt my business to manage those costs, and traditionally, most industries pass those costs along to consumers.

Ms. DEGETTE. Right. So, oil, gas, coal, solar, wind, livestock, logging, and outdoor recreation all pay to use the public lands, but mining does not.

Mr. DAVIS. That is correct.

Ms. DEGETTE. Does that seem fair to you?

Mr. DAVIS. No. It does not seem fair.

Ms. DEGETTE. Yes. And how does that impact taxpayers like you?

Mr. DAVIS. We end up carrying the burden, and especially in a situation such as the one we faced in Montana, where the two corporations, one Australian and one Canadian, were coming over the border to start industrial-scale gold mines. And the impact of that, it was going to devastate our local economy.

So, who picks up that cost? Who picks up the cost of my business, our entire valley? Our region has a billion-dollar industry employing 13,000 people. I listened to the gentleman to my left talk about the national agenda, and I am curious where the national agenda forgets about local communities and our ability to talk about what happens in our neighborhood. And we talk about

necessary imports. I am talking about gold mining specifically in my region.

Ms. DEGETTE. Right.

Mr. DAVIS. And the impact of that. It would be devastating. it would decimate my industry.

Ms. DEGETTE. So, it decimates your industry, plus we don't have the ability to clean up most of these abandoned mines.

Mr. Chairman, this is why we need to update this law, and I appreciate you having this hearing. And I yield back.

Dr. LOWENTHAL. Thank you.

Now we return once more to Representative Stauber.

Mr. STAUBER. Thank you, Chair Lowenthal. I appreciate it. I want to continue my conversation, but I want to restate the question. And Commissioner Lachelt, it will just be a yes or no answer because I have other questions.

I am going to ask this: Would you rather power your county with elements harvested in places like northeastern Minnesota, with great EPA environmental standards and union labor? Or would you prefer to receive them from places with an utter lack of labor standards and environmental standards such as Brazil, China, or Russia? And that is just an either/or.

Ms. LACHELT. Thank you, Representative. I prefer that any minerals are responsibly sourced. So, I would say yes to your question, and let you know that I work with solar——

Mr. STAUBER. Yes to harvest them in Minnesota, or other countries?

Ms. LACHELT. Where there are apparently—and you represented that you have strong standards. I would say I would much prefer that than from——

Mr. STAUBER. Much prefer Minnesota?

Ms. LACHELT. I would.

Mr. STAUBER. Thank you.

Ms. LACHELT. However, many of the companies operating on our public lands are foreign——

Mr. STAUBER. I will go to my next question. I appreciate you supporting my great state of Minnesota.

[Laughter.]

Mr. STAUBER. Mr. Comer, how long does the permitting process take for hardrock operations? And how does that compare to mining in other countries with comparable environmental standards?

Mr. COMER. Thank you for the question. If you were to look at other countries such as Australia and Canada, they have very strong environmental laws, and they take 2 to 3 years to permit mines and properties and projects just as complicated as those that we permit here.

One of the problems with the law as proposed is that it adds new layers of NEPA analysis and the leasing decisions as the Federal Government chooses which land should be available and should not be available for further exploration after having removed 50 percent of those lands from availability.

In the United States, a typical mine project, hardrock mining project, takes right around 10 years plus or minus.

Mr. STAUBER. Next question. How would you characterize the environmental protections in the United States compared to other major producers of critical minerals in the world such as China?

Mr. COMER. The United States has top of class environmental protections. To say that there are no controls over how mines are developed or operated is just a simple fallacy. Part of the reason it takes 10 years is because of the 40-plus environmental and land management laws that have to be complied with. No mine is going to open today that will discharge air or water emissions that violate the law. Our protections are very strong.

Mr. STAUBER. As they should.

Mr. COMER. As they should be.

Mr. STAUBER. Yes. Thank you for those questions.

Chairman Lowenthal and Ranking Member Gosar, I want you to know, and other members of this panel, I want you to know how important mining is to the state of Minnesota and this Nation, the critical elements that we mine, copper and nickel.

We need mining to transition into alternate sources of energy—windmills, thousands of pounds of copper. It can be mined in northern Minnesota, following strict standards. Good paying jobs. And it will be a great part of our economy.

We have permitted the very first copper-nickel mine in the state of Minnesota that has met or exceeded every environmental standard. And we are going to bring great paying jobs to this state. It is called the Duluth Complex. It is the biggest precious metals find in the world. And we can mine it safely, following standards, bringing great-paying jobs to our community.

And we talk about reclamation. I would invite anybody to come up to northern Minnesota's Iron Range. I will show you reclamation, how it should be done. We have deer. We are harvesting hay. We have bees. We have ducks. We have birds. It is beautiful.

Mr. Chair, I yield——

Dr. GOSAR. Would the gentleman yield for a second

Mr. STAUBER. The gentleman will yield.

Dr. GOSAR. Will the gentleman answer me a question? The cleanest water in Minnesota is located where?

Mr. STAUBER. In the Iron Range.

Dr. GOSAR. In reclaimed mines, is it not?

Mr. STAUBER. That is correct.

Dr. GOSAR. I thank the gentleman.

Mr. STAUBER. Mr. Chair, that is all I have. I yield back. Thank you.

Dr. LOWENTHAL. Thank you.

I now recognize Chairman Grijalva, Chairman of the Natural Resources Committee, and also the sponsor of H.R. 2579, the Hard Rock Leasing and Reclamation Act of 2019.

Mr. GRIJALVA. Let me first thank you, Chairman Lowenthal and Ranking Member, for having the hearing. It is a very important hearing. And the issue of reforming the 1872 Mining Law will, no doubt, as this legislation proceeds, be a source of debate, to say the least. But it is a necessary debate that we need to have. And I appreciate, Chairman Lowenthal, you scheduling this meeting, and to the witnesses, thank you for being here.

For a decade now in southern Arizona, the Rosemont Mine has been a point of opposition by the vast majority of the community. And yet, 10 years later, as Chairman Manuel said, the permits continue to be issued, have been issued for it, and the litigation continues in all the various courts around there. And it seems that litigation is the last stop.

And regardless of the impacts on the environment, water quality, sacred sites, or the opposition of the Pascua Yaqui Tribe, the Hopi Tribe, the Tohono O'odham Tribe, the mine has been permitted. And that is because the land managers repeat that under the Mining Law of 1872, they are not allowed to turn down a mine regardless of impact. And their ability to say no is non-existent.

And I think that much of the controversy around the issue of mining, and where it should be and where it should not be, rests with that clause and that particular power that has been given to the mining industry. And we are not talking about the little guy with his donkey going up the hill; somebody grubstaked him for him to go look for a precious metal, gold or silver. We are talking about a multi-national industry, particularly companies from Canada and Australia that were mentioned as being on the cutting edge of environmental protections.

I want to ask you in one aspect of this whole discussion, Chairman Manuel, the O'odham Nation has long dealt with the impacts, as you mentioned in your statement of mining on your lands.

Could you tell us the impacts to your land and water, elaborate a little more regarding the Freeport and Asarco Mines, Mr. Chairman?

Mr. MANUEL. Thank you for the question, Chairman Grijalva. When the mine was put in place on the Nation back in the 1950s by Hecla Mining Company at that time, which was from Canada, and then they started mining. And it is up on a mound, and there are communities below those mounds.

They started mining underground, the oxide and sulfide. And they started putting in acid underground. That acid got into the underground water and started traveling and got to the communities there. Right now, EPA is involved as far as the cleanup, and it is a Superfund site. We have walls around the area, and the contamination is still moving away from the mine. So, that is our major concern.

Mr. GRIJALVA. Thank you, and I think the point that the Chairman made should not be ignored, that the lack of consultation on the part of the Federal Government with regard to a Federal asset, with a trust responsibility to consult in a meaningful and real way with tribes before the fact, not after the fact. And I think the Chairman pointed that out.

Mr. Davis, your situation is very similar to the one that we are dealing with in Arizona. You fought the proposed mines at the doorstep of the Yellowstone?

Mr. DAVIS. That is correct.

Mr. GRIJALVA. And people are fighting to keep the Grand Canyon free from uranium mining, close to the Grand Canyon, an iconic treasure. And you mentioned also, and it was part of the overall lands package, that it was approved into law to create a buffer around that your organization fought so hard for, and that my

colleagues on the other side of the aisle supported, to create a buffer next to Yellowstone from mining, effectively banning mining from that area in order to conserve and protect that.

I find that interesting because I am sure there will be oppositions to any kinds of equal protections in other parts of the country, which is another legislative tool that we have here in Congress to stop that. And I congratulate your group in doing that and getting that done, and convincing your elected officials to respond to that.

These mines in Yellowstone, you said they are devastating to business. Could you elaborate on that? What would have happened? Employment? Revenue? Local tax base? Et cetera?

Mr. DAVIS. Just my valley alone sees $70 million a year in tourist business based on fishing. But the region itself sees almost a billion dollars, and again, it drives 13,000 different jobs. So, I have to underscore, this is not about being anti-mining, and I certainly appreciate the gentleman from Minnesota.

Montana is laden with extractable minerals. It is what we are going to mine, how we are going to mine, and where we are going to mine it. And our big contention is that communities should have a very loud say in whether that is the place it is going to happen, instead of having a golden ticket to come into your community, especially as a foreign corporation, and set up shop without any penalties or without any respect to the community and its way of life and what does drive that economy.

Their right certainly should not supersede a right that has been entrenched for a hundred years. My business is 120 years old. I have my life on the line. I have my family's life on the line. So, the impact, especially with today's technology and today's machinery, to come in 3 miles from the highway, the corridor to Yellowstone, and start open pit mining, it would devastate our economy. You would be trading one for another.

Dr. LOWENTHAL. Thank you, Chairman Grijalva.

I now recognize Representative Amodei for 5 minutes.

Mr. AMODEI. Thank you, Mr. Chairman, and thank the Committee for its courtesies in allowing me to participate in a hearing for an industry that is fairly important in my district.

First of all, I would like to ask anybody on the panel if you have any familiarity with the state of hardrock mining in Nevada. And if so, please raise your hand and tell me what that is.

Mr. Comer?

Mr. COMER. Thank you. I have visited mines in Nevada and am familiar with gold mining in Nevada. In addition, I reviewed, in some efforts in mine transactions between companies, many mines in Nevada.

Mr. AMODEI. OK. I appreciate that. Anybody else?

[No response.]

Mr. AMODEI. OK. And it not that I expected you to or that is a wrong answer or anything like that. But I want to use my time to kind of, in keeping with the theme of the hearing, talk about reforming the Mining Law of 1872 because anything with a date of 1872 suggests that perhaps it is time to take a look at that and update things. That is not a wild thought, and I support that.

But the challenge before us in doing that is doing that with an open mind, and doing that with your head on a swivel, and doing that with a mind to all things relevant, whether that is tax, whether that is permitting, whether it is all those things. And let me just state so it is clear, it is time. We should take a look at that, and we should do some reforms.

But as we do that, we need to take a look at how things are going. And I am not going to tell you how things are in your jurisdictions or things like that. But I do know some things about what is going on in my jurisdiction. And in my jurisdiction, when we talk about what are we going to do, for instance, for taxing those Federal lands which most of the mining takes place on, it is like, fair enough. Let's talk about that.

Let's talk about how mining in Nevada pays over $15,000 an employee in state, local, and Federal taxes. The next closest industry is about $1,100. That does not mean those industries are bad industries. It just means that we should not start, at least in that neck of the woods, on Federal land with the premise that it is not paying its way.

Let's talk about a living wage in Nevada, because guess what? If you pay high wages, you also pay Federal income taxes. So, when we talk about wages in the hardrock mining industry in my state, those people can afford their food. They can afford their health care. They can afford their medical care. They can afford all those things because they are paid very well.

And let's talk about their impact on public safety, because it is funny—those companies, before they turn you loose on their sites or underground, tend to do things like drug and alcohol test you. So, they are not commonly appearing in your courts and having to be dealt with in those contexts. It does not mean we should not look at them. It does not mean we should not update the law. But we should do it with an eye toward all facts that are relevant.

Let's take a look at another thing. The state of Nevada said, hey, we want you to pay net proceeds of minerals. So, after you do all the things you do, which is pay people, which is what we like; and after you do things like provide good health care and good retirement and all those sorts of things, we also say, we want you to pay net proceeds.

You know a funny thing about net proceeds is, when we have an eye toward increasing those taxes, that is an automatic deduction from what their state net proceeds are. We should be mindful of what that does because I will tell you, as having served in Nevada Legislature, they will go, whoa. If you are going to affect our income stream, we are going to go back and revisit that.

I'm not saying they should not. I am just saying we ought to know that before you enact something, which basically may say those 500 people working at that mine, extracting whatever the mineral is, may not have a job any more. May not. I'm not saying, "Oh, my God, the sky is falling." I am just saying, we should do that, all these things, with those things in mind.

And let's talk finally about permitting. If a mine is seeking a permit in an area that does not pass NEPA muster, then they should be denied. The process is set up for that. But let's not start with the premise on permitting where it is like, oh, if you apply, you

should have one. There are denials and they should, quite frankly, be appropriate in some circumstances.

But when we talk about refining what we do with minerals and minerals extraction on Federal lands and elsewhere in this country, let's do so with a 360-degree look at all the issues, and do it in a way that says, if there is a part of it, then the final part is this.

Nevada is a success story in reclamation. It doesn't mean mission accomplished. You never say that. It is a success story in reclamation. So, when we talk about what are we going to do with reclamation and we are going to use some of these funds for that, let's also have our head on a swivel because, quite frankly, if it isn't broke in some areas, we don't need to spend Federal money on it.

Thank you, Mr. Chairman, for your indulgence, and I yield back.

Dr. LOWENTHAL. Thank you, Mr. Amodei, and welcome to the Committee.

I am now going to recognize myself for 5 minutes. And I want to go first to Chairman Manuel.

Chairman Manuel, we have existing laws in this country that are designed to protect Native American cultural sites. Why aren't those laws enough to protect the sites from the impacts of mining? Why aren't the existing laws that we have sufficient to protect cultural sites from the impacts of mining?

Mr. MANUEL. Thank you, Chairman, for the question. The existing laws that are in place right now are good. But the problem that we encounter as we do consultation with the branches of the government, they don't fulfill their authority and their responsibility in protecting those in our behalf.

That is why we are glad to see the laws being changed now to give us that consultation that is going to be put in place as far as protecting, fully protecting, these resources because right now, how we see it is the government does not really enforce that authority that they have on those entities.

Dr. LOWENTHAL. Thank you.

Mr. Comer, we have heard a lot about that if we move toward this leasing system, that it would be the end of mining in the United States. But other countries, such as Australia and Canada, have a thriving mining industry. In most of their territories, these countries utilize a mixed hybrid or a claims leasing system.

Mining companies stake a claim until a discovery of a valuable mineral deposit occurs. At that time, these claims must be converted to a lease. Why shouldn't the United States maintain two different mineral development systems, both the locatable, which we are talking about, and also leasable? We already know that Minnesota is a locatable system. I'm sorry, Minnesota is a leasable system already.

Mr. COMER. That is correct. But there are no leasable mines in operation in Minnesota right now. Leasing has many issues in hardrock mining. One of the issues is it is difficult to find mineralization that will yield a mine. The ability to have claims allows you to establish those locations over time and then develop them and even chase the mineralization.

The exploration that was initially done in Minnesota was done in the 1950s and the early 1960s. Under a leasing system, you

would not have your leases any more. They would have devolved to somebody else.

Dr. LOWENTHAL. But I would like to follow that question. In both Australia and Canada, which have been cited as examples, and they are countries that have thriving mining, they have a hybrid system, one in which you originally receive a claim; once you strike the hardrock, you discover that mineral, that they must be converted to a lease.

So, why is a lease not a problem there, and yet it would be a problem here in the United States?

Mr. COMER. Mr. Chairman, you have to look at how the system operates. Certainly that is not what is described in this bill. This bill contains acreage limitations that would cause the forfeiture of leases. When we look at royalty——

Dr. LOWENTHAL. Let me just follow up. You would be agreeable to a hybrid system such as what we find in Australia and Canada?

Mr. COMER. Mr. Chairman, it is not what I am agreeable to. There is an industry out there that is very engaged in these issues. I think you will find the mining industry is eminently reasonable in how it views how it should operate, and those are discussions that may be appropriate to take up. But this bill does not contain a workable leasing system.

Dr. LOWENTHAL. So, the problem is, and I will just end now, on what are the specifics of this bill, not that you oppose a leasing system?

Mr. COMER. Again, no one really cares what I think.

Dr. LOWENTHAL. Can we strike his entire record, then?

[Laughter.]

Dr. LOWENTHAL. With that, I now recognize my friend, the Representative from Louisiana, Mr. Graves.

Mr. GRAVES. Thank you, Mr. Chairman. Mr. Comer, I actually appreciated your testimony.

I have a question, actually, for the Chairman, if that is OK—Mr. Chairman, the sponsor of the bill? Any chance?

Dr. LOWENTHAL. Yes.

Mr. GRAVES. I just want to make sure I understand the purpose of the legislation. You just feel that this is a public asset, the minerals that are being mined, and so you feel that the public should be able to have some type of value assigned to that and be able to benefit from that like we do for oil and gas and things like that. Is that accurate?

Mr. GRIJALVA. Essentially, yes.

Mr. GRAVES. Thank you. And that is the only question I had. I just wanted to make sure I understand that.

Do any of you—and, in fact, anybody in this room—I am curious about the royalty rates. The royalty rates are established at $10 an acre on top of the 12.5 percent—well, I guess the royalty rate is 12.5 percent. I think I saw there was a different royalty rate when they are at 8 percent as well.

I am just curious, does anybody know where those numbers came from? Eight percent of the value of production, and then—yes, not less than 8 percent, but then it has a 12.5 percent threshold as well. But, does anybody know where those numbers came from, 8 and then 12.5 percent?

Ms. LACHELT. Representative, my understanding for the 12.5 percent royalty rate is that is the same royalty rate for oil and gas on public lands.

Mr. GRAVES. OK. OK.

Ms. LACHELT. It is consistent.

Mr. GRAVES. So, we have it based on oil and gas. There is some basis, arguably, but then as we heard Mr. Comer say that there are significant differences between oil and gas, where you go in and extract from a large reservoir—whereas in this case, I think it is a different scenario. But at least there is a basis.

So, do all of you agree that if you have a public asset, a public natural resource, and it is being mined or being utilized, that the public that owns it should get some type of compensation or benefit? Or does anybody disagree with that? Do any of you disagree with that?

Ms. LACHELT. I do not disagree. I believe that it levels the playing field for the hardrock mining industry with all other industries on public lands—oil, gas, coal.

Mr. GRAVES. OK. And in this case, under the legislation, 75 percent of the royalties or the revenues, they go into reclamation. They go into helping to clean up abandoned mines. That is correct. Right?

[No response.]

Mr. GRAVES. I just find it curious that in this case we are going to clean up abandoned mines, wherever in other scenarios there are strong efforts to make sure user pays or polluter pays; whereas in this case this isn't necessarily—this is disconnecting that. It is making other folks pay, potentially, for any type of environmental harm that may be caused.

What are your feelings on the revenue sharing, where the states get 25 percent, the remaining revenues, 25 percent. So, none of this money is actually going to the Treasury. As I read, I think 100 percent—is that right—100 percent is going out? Because 75 percent goes to reclamation and 25 percent goes to states? What is that?

Mr. COMER. Federal tax.

Mr. GRAVES. Federal tax is what? Well, you still get Federal taxes. But of the royalties, though. so do you believe that 25 percent should go to the states?

Mr. DAVIS. I believe if the states are left with the impacts of reclamation——

Mr. GRAVES. No. But let's go back and remember that 75 percent of the funds are going to actually do reclamation work. Right?

Mr. DAVIS. Right. But the overall impact is going to affect the state. I personally believe that, yes.

Mr. GRAVES. Anybody disagree with that, that states should get some type of compensation?

[No response.]

Mr. GRAVES. OK. The reason I bring this up, in Louisiana when we dig, when we mine, we hit water, so there is not a whole lot going on in Louisiana. The reason I bring this up is this. Under the Mineral Leasing Act right now, states get 50 percent of the money from energy production on Federal lands in their states. They get 50 percent of the money, and there are no strings attached. They

can do whatever they want with it. An additional 40 percent of those funds goes into the reclamation fund for water projects in the western states. So, 90 percent of the money effectively goes back.

In the case of where I represent, South Louisiana, we have produced maybe $200 billion in royalties and bonus bids and rental payments to the Federal Government, and we get virtually nothing. I think we got 0.6 percent—0.6 percent. So, the Mineral Leasing Act gives up to 90 percent; under this bill they get 25 percent while the environmental impacts are being addressed. We have lost 2,000 square miles of our coast and we get nothing. Zero. Zip.

And I just find it interesting how this Committee continues—just last week, or 2 weeks ago, whenever it was, we did a bill providing royalty-sharing for offshore wind. I am not sure what the environmental impacts of that are, but the territories are getting, under this bill, revenue-sharing from offshore wind production.

If we care about the environment, I just do not understand why we have such disparity in our policies? Let me say, Mr. Chairman, I actually will support legislation—I don't know about the bill in its current form, but I will support legislation that provides some type of value back to the taxpayer.

I believe there should be something there. I don't know that these royalty rates are set appropriately; maybe we auction it and see what the market determines. But I actually think the public should get something back, which is not just the disparity—and I am wrapping, Mr. Chairman; thank you for your discretion—not just the disparity on the lack of revenue-sharing for Louisiana and states that produce offshore energy, but also I am going to bring in red snapper. I am bringing red snapper into this conversation. All my friends up here, they love it when I talk about this.

But here we have again—and you are going to cut me off now——

[Laughter.]

Mr. GRAVES. Here we have again a scenario where—red snapper is a natural resource. It is a public asset. It is a public asset, and we just give it away for free. Why is it that now some things are worth money and we need to have a market and make sure taxpayers are getting something back, and in other cases we just give it away for free. I don't understand this Committee ever, ever.

We have no consistency in policy, and it is all about just choosing winners and losers. And in this case, and the case of red snapper, the public loses. The public gets completely screwed. So, thank you. I am done.

[Laughter.]

Dr. LOWENTHAL. I am not sure I saw the exact relationship between the red snapper and this, but I always appreciate——

Mr. GRAVES. You cannot distinguish minerals and red snapper. They look identical.

Dr. LOWENTHAL. I always appreciate my Representative from Louisiana educating us. It is a pleasure.

[Laughter.]

Dr. LOWENTHAL. I would like to thank the witnesses—oh, oh, yes. It is with great honor, and the operative word is honor, that I represent the Ranking Member for 5 minutes, Ranking Member Gosar.

Dr. GOSAR. Well, first of all, just to correct the record with my colleague from Louisiana, it is not a 50–50 split. As you will remember a couple years back, it is 48. Yes. The Federal Government stole 2 percent from the states.

Just to correct a couple records here. Mr. Davis, do you take deductions on your taxes?

Mr. DAVIS. Of course.

Dr. GOSAR. That is what I thought. Let me ask all the members on the panel: Do you have a cell phone?

Mr. DAVIS. Of course.

Ms. LACHELT. Yes.

Mr. COMER. Yes.

Dr. GOSAR. How about you?

Mr. MANUEL. Yes.

Dr. GOSAR. You have one.

Mr. Comer, when we look at litigation situations, Canada is a little bit different than the United States, is it not?

Mr. COMER. Yes.

Dr. GOSAR. So, what is that? I think it is English system, so what ends up happening? Loser pays?

Mr. COMER. Yes, sir.

Dr. GOSAR. Oh, so it's a very, very different application here. And that is why we get the streamlined effects in Canada, because we do not get the frivolous lawsuits. OK?

Another thing I need to set straight. Chairman Manuel, thank you for coming. You talked about government-to-government consultation. Is it not true that the government reached out to you and you refused to talk to them? Yes or no?

Mr. MANUEL. No.

Dr. GOSAR. Let the record reflect that they turned down government-to-government consultations numerous times with the Forest Service and with the company.

So, when we start talking about production, Mr. Comer, when we do these rare earths in particular—I am going to be very pointed about these—they are a little harder to deal with, are they not?

Mr. COMER. Yes, sir.

Dr. GOSAR. Hardrock has some very different applications, does it not?

Mr. COMER. Yes, sir.

Dr. GOSAR. What do we have to do with these that makes it, particularly hardrock, a little bit different than everything else?

Mr. COMER. Well, first of all they are called rare earths partly because of how they are described, but they are very rare. They are located in very small quantities. They require extensive processing. And they are even more difficult to find. Yet, their applications are essential to our current economic future.

Dr. GOSAR. You saw the charts that I put up there. If we continue down this pathway, you see the bloom where we are more reliant on other forms of these minerals all the way around the world. How does that look to our intellectual property that is so much based upon these rare earths?

Mr. COMER. It is a challenge. We don't control any of the rare earths that are a critical part of our technology and energy

resources that we are advancing that are advanced, that are not conventional in nature.

Dr. GOSAR. In fact, they have a monopoly, do they not?

Mr. COMER. An absolute monopoly, sir.

Dr. GOSAR. I mean, they actually run the worldwide market, so what ends up happening is, they keep raising the price, raising the price. And then it gets advantageous for companies to come in. And once they start investing money, what they do is they flood the market, do they not?

Mr. COMER. That is certainly a possibility, sir.

Dr. GOSAR. Well, they do. They do. Do you think the demand for these elements are going to go down, particularly with the less aspect for renewable energy in wind and solar?

Mr. COMER. I don't see any scenario in the short term where mineral demands will diminish.

Dr. GOSAR. You made a comment that we would spend as much on copper in the next 5 years as we did in the last 500.

Mr. COMER. Twenty-five years.

Dr. GOSAR. Twenty-five years. I am sorry. Is that true?

Mr. COMER. That is my understanding, yes, sir.

Dr. GOSAR. Do new cars, electric cars, have less or more copper?

Mr. COMER. A current electric vehicle uses four times the amount of copper as a conventional car, which uses substantially more than a car from 20 years ago. Just think of all the motors that exist in cars that have copper windings compared to the cars we grew up in.

Dr. GOSAR. I am going to go back to mitigation because it was brought up. Once again, I just want to bring this up. There are abandoned mines, but the problem with that mine was alluded to by the EPA. Their decisions—my wife is from Durango, by the way, so I do know a lot of people there. The problem for that spill was a catastrophe of errors, and particularly with EPA. I did not ask a question. That is fact.

So, when you look at these, Mr. Comer, as far as these rare earths, are they better done in this country or in China?

Mr. COMER. There are many reasons we are better off having minerals produced in the United States. It creates jobs. It creates tax revenues. We do it too high, high environmental standards. There are a lot of benefits. In fact, you then control the market.

Dr. GOSAR. And one last question. When we talk about abandoned mines, part of the big problem with abandoned mines is the litigation that prohibits us. We have been dealing with this on this Committee over and over again. For one, in Arizona, we have Resolution Copper that mitigated a past mine site and have invested almost a billion dollars in that reclamation application.

And there are plenty of groups that want to do that. But what ends up happening is the environmental groups will refuse to sign off on the litigation. That is part of the problem. And that goes back to my whole application that in Canada they have a loser pays, so the frivolous lawsuits are few and far between.

The last point I want to make is the reason why there are multinational companies is we have put all the American companies out of business. That is the problem. In order to mine in the United States, you have to have holdings around the world to subsidize

what you have to put through here because the time it takes from discovery to mining is sometimes 20 years.

With that, Mr. Chairman, I yield back.

Dr. LOWENTHAL. Thank you. And I want to thank the witnesses for their testimony and the questions. I think we had a full discussion of the issues before us.

Before I kind of summarize and end it, I would like to ask the witnesses if there is anything that you would like to provide, some concluding statement? No more than a minute. Or some question that you wish you had been asked. Either some concluding statement or some question that you wish we had asked that you want to ask yourself and answer it here.

No obligation. If you want to answer it, you can. Is there anything you would like to tell us now that we have not asked you? Mr. Davis?

Mr. DAVIS. It is really not a question. It is just a thought. This mining law, which has not been touched for 147 years, needs to be overhauled. There is no question about that. I guess my question to you is: In my business, we sit once a year and we envision what the future looks like. If Congress, if a bipartisan Congress, were to sit down and rewrite this law, envision this law, rewrite this law today for the future, what would it look like?

And I cannot imagine for a second that it would look anything like what is on the books now and what seemingly is ignored or passed away. We have heard how it needs to be worked on. It needs to be thought about. It does, and that is what today is about. Today is to begin that process.

But if we were writing this law today fresh, if Congress was rewriting it, what would it look like? And I think that is my question to Congress, to a bipartisan Congress.

Dr. LOWENTHAL. Thank you. Anyone else wish to make any final statement? Concluding statement? Or ask a question that we have not? Mr. Davis asked us a question. Yes?

Mr. COMER. Members, thank you for this opportunity. Companies put hundreds of millions and billions of dollars into opening mines. If they don't have security of mineral tenure, it is not a true investment if you are subject to losing that.

With respect to how we look at royalties, if you look at the profits pie in mining, there is not 12 percent of a gross royalty. There is generally not 8 percent. There is less than 3 percent. So, the royalty issue is important because hardrock mineralization is difficult to find. It is expensive to process.

If you look at a typical copper mine, you dig hard rock. you crush it. You screen it. You grind it. You mill it. Then you only have 30 percent copper. And you may have had transportation skips. Then you send it to a smelter to get to 80 percent, and then to a refinery. It is very expensive.

These are small deposits. They are not regional deposits. The exploration is challenging. So, when you look at a royalty, it is important to look at: What royalty number are you using? How are you applying it? And does it make sense for the mineral? So, it is not a one-size-fits-all, and mining is not one-size-fits-all.

Thank you very much.

Dr. LOWENTHAL. Thank you, Mr. Comer.

Chairman Manuel?

Mr. MANUEL. I just want to state that I do understand the purpose and the intent of copper mining that is being done on our Nation's lands and the benefits out of the mining. But I just wanted to say that we would rather have consultation so we can mitigate the negative impact it is going to have on us.

I did meet twice with the U.S. Forest Service Director there in Tucson, and I met twice with the Corps of Engineers that is overseeing the project on the 404 permitting. So, we had those meetings. Thank you.

Dr. LOWENTHAL. Thank you.

Ms. Lachelt?

Ms. LACHELT. Thank you, Chairman. I would like to start by just reiterating. This law is almost 150 years old, and we desperately need a source of funding to be able to clean up the 500,000 abandoned mines. This bill would provide for that. It would ensure that no community would have to go through what my community went through with the Gold King Mine spill.

And even though the EPA was working, trying to fix the mine, it was a net inevitable that that mine was going to blow out. And we could experience another mine blowout at any point, so we very much need a source of funding for that.

I would also like to respond by stating that the industry on Federal lands enjoys exemptions from many of our laws that protect water quality—the Clean Water Act, the Resource Conservation and Recovery Act. And in terms of NEPA, it doesn't apply in terms of they cannot select a no-option alternative. This reform would also give communities input into the kind of development that may or may not be appropriate in their backyards.

And I believe that every community needs a say, and not just to have a mine forced upon them in their watershed. And also, folks really want to make sure that they are sourcing their minerals from mines that practice best practices. And it is about responsible mining. We don't want to source our minerals from companies that can destroy an entire watershed for a community. Thank you.

Dr. LOWENTHAL. Thank you. And I would like to offer one concluding thought, after listening to both the panelists and also to the Members behind the dais.

It is clear, and from the arguments from both sides on this issue and what was stated, I think quite eloquently, by the Representative from Louisiana, our hardrock mining system needs to be fixed, I think. The mining industry knows this. They are scared of changing the existing system. But they also have made it clear that the existing system that we have today is not ideal.

Meanwhile, even though I do agree that it would be good to reduce our dependence on imports or the importance of finding new deposits of minerals here in the United States that we need for our new clean energy future, I cannot support doing that under the Mining Law of 1872.

I think what I am saying is that there is a win/win to be found here. We need the mining industry to come to the table to find that win/win. And, unfortunately, we haven't seen much appetite on their side to want to come to the table to do that. But I believe there is a way to reform the Mining Law, protect special places, as

has been identified, by respecting tribes; that we can clean up abandoned mines and solve some of the problems that the mining industry faces. But I think we are going to need to all work together to do that.

In conclusion, I want to say that the Members may have some additional questions that they may want to ask you, members of the panel. And we will ask you to respond in writing to those requests. Under Committee Rule 3(o), members of the Committee may submit questions to the witnesses within 3 business days following this hearing. And the hearing record will be open for 10 business days for you to respond to those questions.

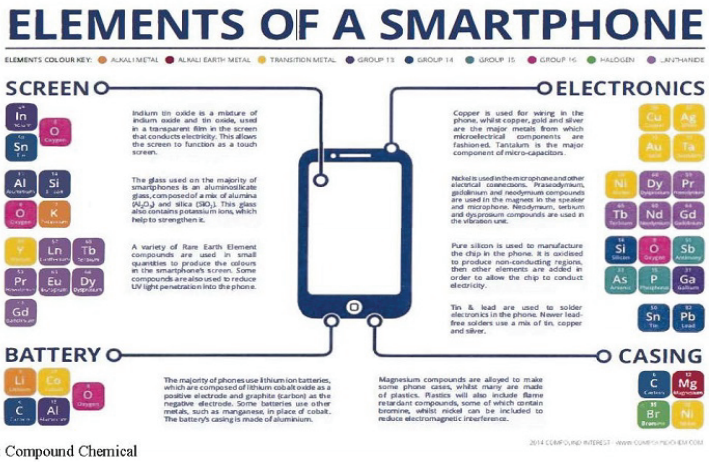
If there is no further business, and not hearing any, this Committee stands adjourned.

[Whereupon, at 11:43 a.m., the Subcommittee was adjourned.]

[ADDITIONAL MATERIALS SUBMITTED FOR THE RECORD]

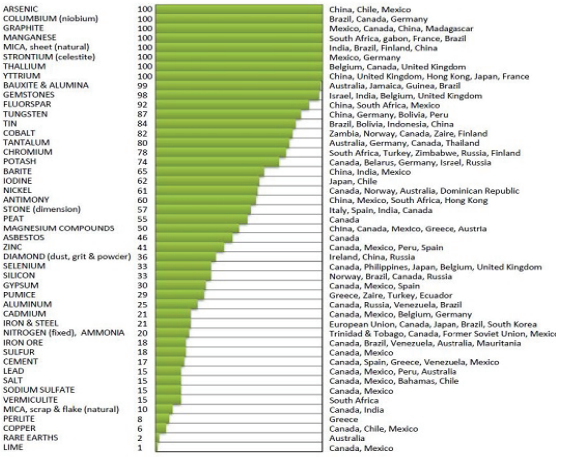
Submission for the Record by Rep. Gosar

Slides Used During the Hearing



Source: Compound Chemical

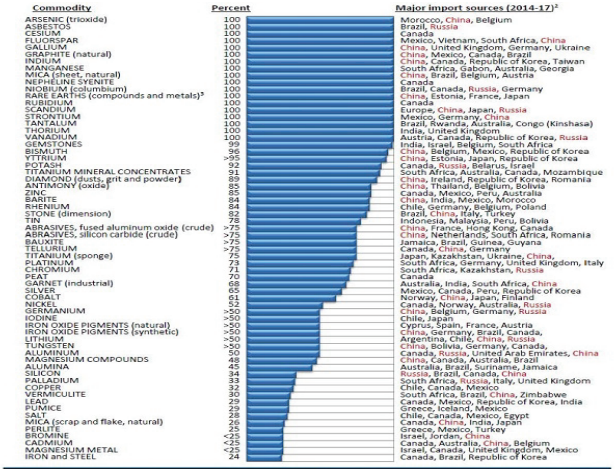
Import Reliance in 1995



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

Source: USGS

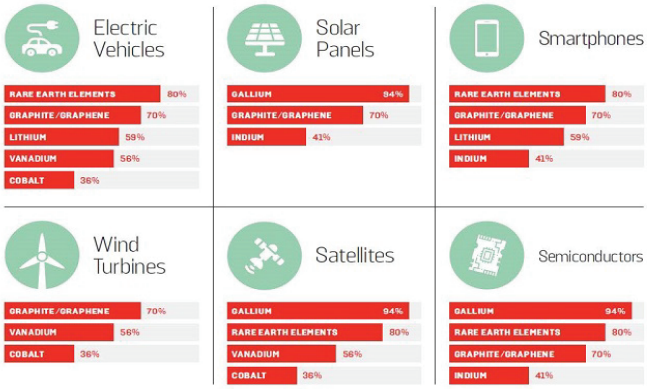
Import Reliance in 2018



Commodity	Percent	Major import sources (2014-17)[2]
ARSENIC (trioxide)	100	Morocco, China, Belgium
ASBESTOS	100	Brazil, Russia
CESIUM	100	Canada
FLUORSPAR	100	Mexico, Vietnam, South Africa, China
GALLIUM	100	China, United Kingdom, Germany, Ukraine
GRAPHITE (natural)	100	China, Mexico, Canada, Brazil
INDIUM	100	China, Canada, Republic of Korea, Taiwan
MANGANESE	100	South Africa, Gabon, Australia, Georgia
MICA (sheet, natural)	100	China, Brazil, Belgium, Austria
NEPHELINE SYENITE	100	Canada
NIOBIUM (columbium)	100	Brazil, Canada, Russia, Germany
RARE EARTHS (compounds and metals)[3]	100	China, Estonia, France, Japan
RUBIDIUM	100	Canada
SCANDIUM	100	Europe, China, Japan, Russia
STRONTIUM	100	Mexico, Germany, China
TANTALUM	100	Brazil, Rwanda, Australia, Congo (Kinshasa)
THORIUM	100	India, United Kingdom
VANADIUM	100	Austria, Canada, Republic of Korea, Russia
GEMSTONES	99	India, Israel, Belgium, South Africa
BISMUTH	96	China, Belgium, Mexico, Republic of Korea
YTTRIUM	>95	China, Estonia, Japan, Republic of Korea
POTASH	92	Canada, Russia, Belarus, Israel
TITANIUM MINERAL CONCENTRATES	91	South Africa, Australia, Canada, Mozambique
DIAMOND (dusts, grit and powder)	89	China, Ireland, Republic of Korea, Romania
ANTIMONY (oxide)[4]	85	China, Thailand, Belgium, Bolivia
ZINC	85	Canada, Mexico, Peru, Australia
BARITE	84	China, India, Mexico, Morocco
RHENIUM	84	Chile, Germany, Belgium, Poland
STONE (dimension)	82	Brazil, China, Italy, Turkey
TIN	78	Indonesia, Malaysia, Peru, Bolivia
ABRASIVES, fused aluminum oxide (crude)	>75	China, France, Hong Kong, Canada
ABRASIVES, silicon carbide (crude)	>75	China, Netherlands, South Africa, Romania
BAUXITE	>75	Jamaica, Brazil, Guinea, Guyana
TELLURIUM	>75	Canada, China, Germany
TITANIUM (sponge)	75	Japan, Kazakhstan, Ukraine, China,
PLATINUM	73	South Africa, Germany, United Kingdom, Italy
CHROMIUM	71	South Africa, Kazakhstan, Russia
PEAT	70	Canada
GARNET (industrial)	68	Australia, India, South Africa, China
SILVER	65	Mexico, Canada, Peru, Republic of Korea
COBALT	61	Norway, China, Japan, Finland
NICKEL	52	Canada, Norway, Australia, Russia
GERMANIUM	>50	China, Belgium, Germany, Russia
IODINE	>50	Chile, Japan
IRON OXIDE PIGMENTS (natural)	>50	Cyprus, Spain, France, Austria
IRON OXIDE PIGMENTS (synthetic)	>50	China, Germany, Brazil, Canada,
LITHIUM	>50	Argentina, Chile, China, Russia
TUNGSTEN	>50	China, Bolivia, Germany, Canada,
ALUMINUM	50	Canada, Russia, United Arab Emirates, China
MAGNESIUM COMPOUNDS	48	China, Canada, Australia, Brazil
ALUMINA	45	Australia, Brazil, Suriname, Jamaica
SILICON	34	Russia, Brazil, Canada, China
PALLADIUM	33	South Africa, Russia, Italy, United Kingdom
COPPER	32	Chile, Canada, Mexico
VERMICULITE	30	South Africa, Brazil, China, Zimbabwe
LEAD	29	Canada, Mexico, Republic of Korea, India
PUMICE	29	Greece, Iceland, Mexico
SALT	28	Chile, Canada, Mexico, Egypt
MICA (scrap and flake, natural)	26	Canada, China, India, Japan
PERLITE	25	Greece, Mexico, Turkey
BROMINE	<25	Israel, Jordan, China
CADMIUM	<25	Canada, Australia, China, Belgium
MAGNESIUM METAL	<25	Israel, Canada, United Kingdom, Mexico
IRON and STEEL	24	Canada, Brazil, Republic of Korea

Source: USGS

China's Control and Influence over Worldwide Mineral Production for Renewable Technology



Source: Foreign Policy Magazine

Submission for the Record by Carolyn Shafer, Patagonia

WE THE PEOPLE
OF 2019 ARE BEING GREATLY HARMED
BY THE ANTIQUATED 1872 MINING LAW

We the People
of 2019 have no voice to speak for the ecosystem that is in harm's way if a mining company "owns" 450 acres of patented, private land on which it can mount an underground mine with the intention to blast large tunnels under 23,000 acres of unpatented claims on Forest Service public lands through a highly fractured hydrogeology in a global biodiversity hotspot identified as one of the top five places in the world MOST IN NEED OF RESEARCH and PROTECTION.

—Notes 1, 2, & 3

We the People
of 2019 and the next seven generations are being robbed of an abundant future which we define as a healthy planet and nutritious foods for all.

We the People
of 2019 recognize that as the anthropocene unfolds, it is vital to protect and foster the resilience of the ecosystem and to allow for the possibility that the highest value is that the materials should be left in the ground.

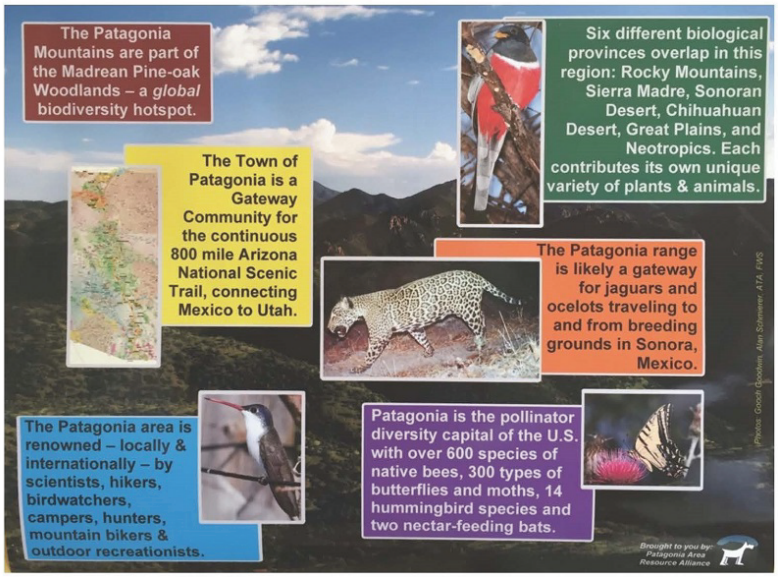
We the People
of 2019 continue to be financially impoverished by the environmental damages of legacy mining as we, the taxpayers, bear the economic and social cost of restoration.

We the People
of 2019 suffer the health damages of legacy mining and 21st century industrialized mining.

We the People
of 2019 are puzzled that the government is giving away extracted materials for free to the mining companies.

We the People
of 2019 living in the Patagonia Mountains and Sonoita Creek watershed in Southern Arizona implore our elected federal officials to support ===bill #=== to stop the infringement of the rights of **WE THE PEOPLE of 2019**.

NOTE 1



NOTE 2

Half-Earth proposes an achievable plan to save our imperiled biosphere: devote half the surface of the Earth to nature.

In order to stave off the mass extinction of species, including our own, we must move swiftly to preserve the biodiversity of our planet, says Edward O. Wilson in his most impassioned book to date. *Half-Earth* argues that the situation facing us is too large to be solved piecemeal and proposes a solution commensurate with the magnitude of the problem: dedicate fully half the surface of the Earth to nature.

If we are to undertake such an ambitious endeavor, we first must understand just what the biosphere is, why it's essential to our survival, and the manifold threats now facing it. In doing so, Wilson describes how our species, in only a mere blink of geological time, became the architects and rulers of this epoch and outlines the consequences of this that will affect all of life, both ours and the natural world, far into the future.

The Patagonia Mountains and Sonoita Creek Watershed are part of the Madrean mountain chains of Mexico and the Sky Islands heights of the southwestern US. The world's senior naturalists (each with international expertise in biodiversity and ecology) include the Patagonia Mountains as ". . . one to five places in the world. . ." considered best on the basis of richness, uniqueness, and **MOST IN NEED OF RESEARCH and PROTECTION**.

NOTE 3

PARA Watchdogs

Patagonia Area Resource Alliance (PARA) is a grassroots, non-profit community alliance committed to preserving and protecting the Patagonia, Arizona area. We are a citizen watchdog organization that monitors the activities of mining companies, as well as ensures government agencies' due diligence, to make sure their actions have long-term, sustainable benefits to our public lands, our water, and the ecosystem.

PARA Watchdogs recognize that the health and economic prosperity of our region are tied deeply to the well-being of the Patagonia Mountains and the Harshaw/Sonoita Creek watershed. They are the source of our drinking water, clean air, and the biological wealth that drives our regional economy.

Our Quality of Life, Our Community, Our Future, Our Economy

Don't Mine Our Mountains!

Water Matters More!

PatagoniaAlliance.org

Patagonia Area Resource Alliance
www.PatagoniaAlliance.org

[LIST OF DOCUMENTS SUBMITTED FOR THE RECORD RETAINED IN THE COMMITTEE'S OFFICIAL FILES]

— Larch Company, Andy Kerr, Statement on H.R. 2579

Submission for the Record by Rep. Gosar

— Foreign Policy Analytics Special Report, "Mining the Future—How China is set to dominate the next Industrial Revolution," May 2019.

○