

**EXAMINING THE MINERAL WEALTH
OF NORTHERN MINNESOTA**

OVERSIGHT FIELD HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY AND
MINERAL RESOURCES

OF THE

COMMITTEE ON NATURAL RESOURCES
U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED EIGHTEENTH CONGRESS

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OVERSIGHT HEARING ON EXAMINING THE MINERAL WEALTH OF NORTHERN MINNESOTA

Tuesday, May 2, 2023

U.S. House of Representatives

Subcommittee on Energy and Mineral Resources

Committee on Natural Resources

Mountain Iron, Minnesota

The Subcommittee met, pursuant to notice, at 1:29 p.m., in Mountain Iron-Buhl Public School Auditorium, 8659 Unity Drive, Mountain Iron, MN 55768, Hon. Pete Stauber [Chairman of the Subcommittee] presiding.

Present: Representatives Stauber, Wittman, Tiffany, and Collins.
Also present: Representatives Bucshon, and Bergman.

Mr. STAUBER. The Subcommittee on Energy and Mineral Resources will come to order. We will begin this hearing with a prayer.

Pastor HIKSON. Please stand. Father God, we are grateful and thankful for this opportunity to be together this afternoon. Thank you for sunshine today. Thank you that these Congressmen from all over our country can be here in this room to hear and learn of concerns that folks in our region have, and we pray that you would provide great wisdom and understanding as they listen and as we learn together.

We recognize that in our nation right now there are a lot of opinions, a lot of different ideas. We pray that we would be working together again for the common good. Thank you for this time, and we pray in Jesus' name. Amen.

Mr. STAUBER. Now the presentation of the colors.

Now we will be led in the Pledge of Allegiance.

Mr. NELSON. I pledge allegiance to the Flag of the United States of America, and to the Republic for which it stands, one Nation under God, indivisible, with liberty and justice for all.

Mr. STAUBER. And now the singing of our National Anthem.

Ms. BUFFETTA. [National Anthem sang.]

Mr. STAUBER. Without objection, the Chair is authorized to declare a recess of the Subcommittee at any time.

Under Committee Rule 4(f), any oral opening statements at hearings are limited to the Chairman and the Ranking Member.

I ask unanimous consent that the gentleman from Indiana, Mr. Bucshon, and the gentleman from Michigan, Mr. Bergman, be allowed to participate in today's hearing.

I now recognize myself for an opening statement.

STATEMENT OF THE HON. PETE STAUBER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MINNESOTA

Mr. STAUBER. First and foremost, to the Mountain Iron-Buhl High School, thank you from the bottom of our hearts for allowing us to hold this field hearing right here in the heart of mining country.

Mountain Iron-Buhl students, I am excited to see so many of you here. As your Congressman, I am pleased to bring the Energy and Mineral Resources Subcommittee to your auditorium. And I also want to congratulate the Section 7A girls basketball championship team right here from Mountain Iron-Buhl and the nine-man football team that are now state champions. Congratulations.

We are bringing Members of Congress here to see what you all see everyday, to hear your desires, receive your input, and therefore make better laws and policies when we are in the halls of Congress back in Washington. This is an official House Committee on Natural Resources event. Instead of the Longworth Office Building in Washington, DC, we are holding it right here in Mountain Iron.

To my colleagues, staff, and everyone else that traveled here to participate, welcome. As you have seen and heard, we are proud of our mining heritage and culture up here. Our vast mineral wealth is one of America's assets. While providing an unparalleled local economic engine, we work, live, and play here, and we have massive amounts of minerals, and we will continue to mine for generations to come.

And that is why these field hearings are so important. Words can only paint so many pictures, and I appreciate my colleagues coming up and visiting the Iron Range and learning more about our vast history.

In the House Republican Majority, the Natural Resources Committee is making it a priority to travel throughout the country to where our constituents, families, and neighbors live. This field hearing is one of many reasons I sought to be Chairman of the Energy and Mineral Resources Subcommittee. Since my first days in Congress, I sought to elevate the issues of our natural resources-based economy here in Minnesota faces, putting our communities on par with other communities across this great nation.

About 140 years ago, we sent the first shipment of iron to the steelmaking facilities around the Great Lakes. Since then, our iron provided the raw feedstock that helped win two world wars and built America. Today, taconite, the ore that we mine, fuels 80 percent of America's steelmaking.

Driving through the Iron Range is a reminder of how the mining industry has grown and innovated to become the modern, clean, and forward-thinking community we have today. Our reclaimed mines dot the landscape where we see wildlife flourish, access drinking water, and where we recreate.

Now, northern Minnesota has an opportunity to supplement our great iron mining heritage with the non-ferrous metals we need, not only for applications like energy technology, but for iPads, our cell phones, healthcare, defense applications, and much, much more.

Occurring alongside the legendary Iron Range are the greatest untapped mineral deposits in the world. The Duluth Complex and the Tamarack Complex combine for 95 percent of America's nickel, almost 90 percent of our cobalt, 75 percent of our platinum brute metals, and more than one-third of our copper. And, again, this is only the supplement to our massive remaining iron reserves. But sadly, we are not currently mining any of these precious metals due to onerous permitting regimes, bad decisions made by activist administrations, and of course, endless litigation.

For example, the New Range Copper Nickel project is on year 20 of permitting and litigation despite winning lawsuit after lawsuit over the years. The Twin Metals Project, situated on Federal land in our working Superior National Forest, had its long-standing mining leases pulled and a massive ban on taconite, copper, nickel, cobalt, and other platinum brute metals. So, let us be clear, this is a mining ban on critical minerals, to include copper, taconite, and more.

The Interior Secretary, Secretary Haaland, under oath in front of this very Committee and one other, stated that she did not know critical minerals were present when she banned mining despite her very own agency publishing the list of critical minerals every year. Therefore, I introduced a resolution one week ago that would use our congressional authority to disapprove of this mining ban and give the Twin Metals Project a fair opportunity. The mining opportunities throughout northern Minnesota are limitless.

Talon Metals in the small town of Tamarack, about 90 miles south of here, is poised to offer a Mine Plan of Operations. Talon operates on private, state, and county land while continuing to discover world-class mineral reserves. The company has already signed an off-take agreement with Tesla contingent upon permitting and has made a strong commitment to our community.

And I should add, I am disappointed that my colleagues on the other side of the aisle did not show up today. They were all invited to this Committee hearing today on mining. Some of my colleagues on the other side of the aisle say the right things at the right times in public and during election years, but when it comes time to vote, when the rubber hits the road, they do not show up to advance our mining, not only in northern Minnesota but across this great nation.

So, I once again thank our witnesses from Minnesota's 8th for sharing their experiences; and my colleagues from Georgia, Indiana, Michigan, Virginia, and Wisconsin for joining me; and once again, to the Mountain Iron-Buhl school system for welcoming us.

Now for witness introductions, Jessica Johnson of Tamarack, Minnesota, serves as a community outreach and government relations manager for Talon Metals; Dean Peterson of Duluth, Minnesota, is the chief geologist for Big Rock Exploration; Joe Baltich of Ely, Minnesota, is the owner of Northwind Lodge, an artist, and a bus driver for Ely Public Schools.

I want to now recognize Ms. Johnson for her opening statement.

**STATEMENT OF JESSICA JOHNSON, COMMUNITY OUTREACH
AND GOVERNMENT RELATIONS MANAGER, TALON METALS
CORP, TAMARACK, MINNESOTA**

Ms. JOHNSON. Thank you, Chairman Stauber and members of the Subcommittee on Energy and Mineral Resources, for inviting me here today. I am here today representing Talon Metals as the community outreach and government relations manager. Talon Metals is a mineral exploration and development company focusing on sourcing nickel and other critical minerals from the Tamarack Nickel Project here in Minnesota that will contribute the raw materials needed for building out our nation's domestic supply chains.

I am also speaking to you today as a life-long resident of rural Minnesota, where I have a passion for living the small-town life, farming, camping, making maple syrup, and enjoying the lake.

The Tamarack Nickel Project located in Aitkin County is one of the few high-grade nickel projects discovered globally in the 21st century and is currently the only development-stage, high-grade nickel project in the United States. Talon has entered into an agreement with Tesla to supply 75,000 metric tons, or 165 million pounds, of nickel in concentrate from the Tamarack Nickel Project once commercial production is achieved.

Currently, the United States has one operating high-grade nickel mine, and due to our current supply chain, 100 percent of that nickel is exported for processing and refining. With the Talon and Tesla partnership model, we are looking to recreate the supply chain and go from raw material to battery here in the United States.

Our team has been working to collect data on the Tamarack nickel deposit and surrounding environment in order to design a modern underground mine that meets environmental standards. As part of our company's tribal engagement statement, we are also committed to gathering input and seeking meaningful consultation with tribal governments.

We recognize that underground mining involves disturbance of the Earth and that communities and tribal governments have concerns about the potential for negative impacts on the environment. We intend to submit a plan for the regulatory review process that addresses the concerns we hear and incorporates the values and interests of our communities and tribal governments. The mine plan we submit will utilize best practices for modern mining and the latest technologies to both protect the environment while also producing the natural resources required for the energy transition.

Looking at the Tamarack Nickel Project, we can see the potential for discovering more critical minerals here in Minnesota. The current known nickel resource at Tamarack is a small portion of the remaining geological area of interest for Talon.

And while we are moving forward with shaping a mine design for the known resource, our team is also continuing ongoing exploration. In our most recent efforts, the exploration team has intercepted high-grade, world-class nickel mineralization up to 2 miles away from the current known resource.

As a resident of Aitkin County, I have seen the benefits that have been brought to our community from mineral exploration

activities. The project's land package of over 31,000 acres sits on state and private lands and has contributed over \$11 million through state mineral lease fees for conducting our exploration activities. These funds are broken down to a local level, directly benefiting our counties, cities, and schools in the region.

In addition, over \$56 million has been spent on local goods and services in Minnesota for the project's exploration activities. Of this, over \$12 million has been spent within a 30-mile radius of the project, directly benefiting our local economy. A case study on royalty revenue from the Talon project was conducted by the Minnesota DNR in 2021 and also estimated over \$115 million in royalties for the future project.

Our team has also made extreme efforts to hire locally, with 80 percent of our employees based here in Minnesota. For future underground mine operations, Talon has a partnership agreement with the U.S. Steelworkers, which will support regional workforce development.

Our team at Talon believes that we can explore and develop new sources of nickel and other critical minerals for battery manufacturing in the United States while also protecting the environment, the cultural resources, and our communities. As a community member in Tamarack, I believe that we can do this too.

It is an exciting time for mineral exploration and development, and I feel grateful that I can live in this area, living the small-town life that I love here in northern Minnesota, while also being a part of our nation's important and historic energy transition that relies on minerals and metals for creating a sustainable future. Thank you.

[The prepared statement of Ms. Johnson follows:]

PREPARED STATEMENT OF JESSICA JOHNSON, TALON NICKEL USA

Thank you, Chairman Stauber, and members of the Subcommittee on Energy and Mineral Resources for inviting me here today. I am here today representing Talon Metals as the Community Outreach & Government Relations Manager. Talon Metals is a mineral exploration and development company focusing on sourcing nickel and other critical minerals from the Tamarack Nickel Project here in Minnesota that will contribute the raw materials needed for building out our nation's domestic supply chains. I am also speaking to you today as a lifelong resident of rural Minnesota, where I have a passion for living the "small-town" life with my family; farming, camping, making maple syrup and enjoying the lake.

The Tamarack Nickel Project, located in Aitkin County, is one of the few high-grade nickel projects discovered globally in the 21st century, and is currently the only development stage high-grade nickel project in the United States. Talon has entered into an agreement with Tesla to supply 75,000 metric tonnes (165 million lbs) of nickel in concentrate from the Tamarack Nickel Project once commercial production is achieved. Currently, the United States has one operating high-grade nickel mine, and due to our current supply chain, 100% of that nickel is exported for processing and refining. With the Talon and Tesla partnership model, we are looking to recreate the supply chain and go from raw material to battery, here in the US.

Our team has been working to collect data on the Tamarack nickel deposit and surrounding environment in order to design a modern underground mine that meets environmental standards. As part of our Company tribal engagement statement, we are also committed to gathering input and seeking meaningful consultation with tribal governments. We recognize that underground mining involves disturbance of the earth and that communities and tribal governments have concerns about the potential for negative impacts on the environment. We intend to submit a mine plan for the regulatory review process that addresses the concerns we hear and incorporates the values and interests of our communities and tribal governments. The mine plan we submit will utilize best practices for modern mining, and the

latest technologies to both protect the environment while also producing the natural resources required for the energy transition.

Looking at the Tamarack Nickel Project, we can see the potential for discovering more critical minerals here in Minnesota. The current known nickel resource at Tamarack is a small portion of the remaining geological area of interest for Talon, and while we are moving forward with shaping a mine design for the known resource, our team is also continuing ongoing exploration. In our most recent efforts, the exploration team has intercepted high-grade world class nickel mineralization up to 2 miles away from the current resource area.

As a resident of Aitkin County, I have seen the benefits that have been brought to our community from the mineral exploration activities at Tamarack. The Project's land package of over 31,000 acres sits on state and private lands and has contributed over \$11 million through state mineral lease fees for conducting our exploration activities. These funds are broken down to a local level, directly benefiting the counties, cities, and schools in the region. In addition, over \$56 million has been spent on local goods and services in Minnesota for the project's exploration activities. Of this, over \$12 million has been spent within a 30-mile radius of the project, directly benefiting our local economy. A case study on royalty revenue from the Talon project was conducted by the DNR in 2021 and estimated over \$115 million in royalties. Our team has also made extreme efforts to hire locally, with 80% of employees based in Minnesota. For future underground mine operations, Talon has a partnership agreement with the US Steelworkers which will support regional workforce development.

Our team at Talon believes that we can explore and develop new sources of nickel and other critical minerals for battery manufacturing in the United States while also protecting the environment, cultural resources and our communities. As a community member in Tamarack, MN I believe we can too. It is an exciting time for mineral exploration and development, and I feel grateful that I can live the "small-town" life I love here in northern Minnesota, while also being a part of our nation's important and historic energy transition that relies on minerals and metals for creating a sustainable future.

Mr. STAUBER. I thank the witness for her testimony.

The Chair now recognizes Mr. Peterson for his testimony.

**STATEMENT OF DR. DEAN PETERSON, CHIEF GEOLOGIST, BIG
ROCK EXPLORATION, MINNEAPOLIS, MINNESOTA**

Dr. PETERSON. Thank you, Mr. Chairman and members of the Subcommittee. My name is Dean Peterson. I am the chief geologist of Big Rock Exploration. I appreciate the opportunity to testify here today as a scientist and geologist on the mineral wealth of northern Minnesota. I want to relay to you some fundamental facts on the geology of Minnesota and briefly discuss the unique set of strategic and critical mineral resources that these rocks contain.

Mineral deposits form as the end products of a wide variety of Earth processes and in essence reflect the tapestry of time, processes, and geologic terranes. Or one could say, ore deposits represent the preferential concentration of specific elements formed within the Earth by the transfer of mass and energy over space and time.

As we sit here atop the Biwabik Iron Formation of the Mesabi Iron Range, perhaps the most important rock unit in the history of the United States' industrialization and defense, I find it hard not to think back to the thousands of miles of terrane I have walked, and the many, many tens of thousands of rock exposures I have described and mapped over the last 40 years.

It is these types of field observations once condensed and integrated into coherent bedrock geology maps that geologists have long used to target mineral exploration programs for ore deposit

types. I have submitted to the Committee a bedrock geology map and a mineral resource map of Minnesota that highlights Representative Stauber's congressional district.

Northern Minnesota contains vast expanses of 2.7 billion-year-old granite-greenstone terranes that globally host a significant percentage of the world's mineral resources, especially gold, copper, zinc, platinum, palladium, nickel, and iron.

The 1.9 billion-year-old sedimentary rocks of northern Minnesota record the Earth's first great bloom of life that released oxygen into the ocean and atmosphere and induced precipitation of billions of tons of iron and manganese out of the ancient oceans to form rocks that we call iron formation, including the Biwabik Iron Formation upon which this building is built.

The final Earth event that my testimony will touch upon was nature's attempt to split North America apart 1.1 billion years ago, in what geologists have called the Mid-Continent Rift. When continents rift and the Earth's outer crust thins, the underlying mantle of the Earth depressurizes and partially melts forming buoyant molten magmas laden with metals. These magmas intrude upward from the mantle into the crust where they are either trapped at depth to form intrusions, such as the Duluth Complex, or erupt on the surface as lavas.

The transfer of these metal-rich mantle magmas into the Earth's crust is the reason why northern Minnesota hosts enormous quantities of critical and strategic minerals associated with the Mid-Continent Rift, such as like at Talon's deposit itself.

Essentially every atom of copper, nickel, cobalt, platinum, palladium, gold, silver, titanium, vanadium, and iron known to exist in those deposits were transferred upward from the Earth's mantle into the upper crust by these buoyant magmas. The bedrock geology within the state of Minnesota represents a mosaic of geologic terranes that facilitated ore-forming processes unique to this region and underpins a remarkable endowment of mineral resource wealth within the United States.

The geology and mineral deposits of the Lake Superior region in general and northern Minnesota in particular are unique. No other area of the United States of America hosts such an array of Precambrian rocks and the undeveloped world-class ore deposits contained within them.

My few allotted minutes here for this testimony are not enough time to adequately describe the value and future potential of the mineral resources present in northern Minnesota. Give me a day or two, and I could bring each and every one of you to exposures of rocks that record geological processes that drove the formation of some of the world's largest ore deposits, and then you could see with your own eyes and place your hands upon unequivocal geological evidence that the state of Minnesota is uniquely capable of fulfilling much of the country's needs for critical and strategic minerals far into the future. Thank you.

[The prepared statement of Dr. Peterson follows:]

PREPARED STATEMENT OF DEAN M. PETERSON PH.D., CHIEF GEOLOGIST,
BIG ROCK EXPLORATION

Introduction

Mineral deposits are formed as end products of a wide variety of Earth processes and reflect, in essence, a tapestry of time, processes, and geologic terranes. Geologists have long used such knowledge to target exploration programs for specific ore deposit types/commodities within different geologic terranes. Any coherent examination of the vast mineral wealth of Northern Minnesota must begin with an understanding of the geology of the Lake Superior region and how specific profound global geological events in Earth history set the stage for the unique set of world-class mineral resources found therein.

My 35+ years as an economic geologist have primarily been spent out in the field unraveling the geology and mineral potential of the Precambrian rocks of Northern Minnesota. My Ph.D. from the University of Minnesota focused on the gold and copper-zinc mineral potential of a large area of Archean granite-greenstone terrane north of the Mesabi Range. I have worked extensively as an academic researcher and as the Senior Vice President of Exploration for Duluth Metals on understanding the geology and Cu-Ni-Co-PGE mineralization of contact-type deposits of the Duluth Complex. My two seasons of field research on seemingly 100% exposure of mafic intrusions in the McMurdo Dry Valleys of Antarctica, that are similar to the intrusions in the Duluth Complex, has led to a profound new understanding of how these mineral systems work and form world-class ore deposits of critically important minerals. I have recently been a Ph.D. committee member for a University of Michigan student studying the origin of the Ti-Fe-V ores of the Longnose and TiTac deposits along the western margin of the Duluth Complex. I have completed academic research studies on the eastern-most Mesabi Range, defining coherent zones of iron ores at Dunka Pit that perhaps one day could be mined to make DRI-grade (very-low silica) taconite pellets, and am currently actively engaged at Big Rock Exploration in a drilling program for manganese resources within the Emily Deposit of the Cuyuna Range.

It is these unique rocks and their known and potential mineral wealth that is the focus of today's hearing, and I am happy to share my knowledge to the committee. This written testimony will attempt, in general terms, to explain how Northern Minnesota's known mineral resources, including Fe-Mn deposits within the states iron ranges and copper-nickel-cobalt-platinum group element (Cu-Ni-Co-PGE) & titanium-iron-vanadium (Ti-Fe-V) deposits in the Duluth Complex, are the outcomes of specific geological events unique to the Lake Superior region.

Geology of Northern Minnesota

Minnesota is situated at the southern edge of the Canadian Shield, the nucleus of the North American continent that formed during Precambrian time. This period of time encompasses about 85% of Earth's history, beginning with the formation of planet Earth about 4.550 billion years (Ga) ago and ending about 0.54 Ga, when organisms with hard parts, such as shells, rapidly diversified. The great span of Precambrian time is divided for convenience into two major parts—the Archean Eon (4.55–2.50 Ga) and the Proterozoic Eon (2.50–0.54 Ga). The rocks formed in Minnesota during this enormous span of time record a complicated geologic history that involved volcanoes, ocean islands, mountain chains, earthquakes, and eons of time where the landscape simply weathered and eroded away.

As the various mountainous Precambrian landscapes of Minnesota were slowly eroded to low relief over 2.7 billion years, Precambrian rocks that were once much deeper within the Earth are now exposed on the surface in Minnesota's flat terrain. These rocks record processes and conditions that existed beneath landscapes long since removed by erosion. Presently, the deeply eroded Precambrian rocks of Northern Minnesota are mostly covered by a veneer of glacially deposited clay, silt, sand, and gravel.

Archean 2.7 Ga Rocks of Northern Minnesota

The Archean rocks of Minnesota are part of the Superior Province of the Canadian Shield. The Superior Province is subdivided into subprovinces, which are broadly east-west, linear belts of rocks of similar geologic history and age. The subprovinces in Minnesota from south to north include the Minnesota River Valley, Abitibi-Wawa, Quetico, and Wabigoon.

The ~2.7 Ga Archean rocks of Northern Minnesota occur mainly north of the Mesabi iron range, and may be seen in Voyageurs National Park, in the western part of the Boundary Waters Canoe Area Wilderness, and in scattered areas elsewhere between International Falls and Ely. This group includes the Abitibi-

Wawa granite-greenstone subprovince, the Quetico subprovince, and the Wabigoon granite-greenstone subprovince. The Abitibi-Wawa and Wabigoon subprovinces originally were parts of volcanic chains that were later deformed and intruded by granite. The Quetico subprovince was likely a large sedimentary basin on or between the volcanic arcs of the Wabigoon and Abitibi-Wawa. The granites welded the greenstone belts together to form the core of the North American continent. The end of the Archean Eon is a profound time in Earth history. The formation of stable cratonic cores of continents allowed for the deposition of vast sequences of sedimentary rocks. World-wide, Archean greenstone terranes are known to host some of the largest mineral deposits on Earth, especially iron, orogenic gold, and copper-zinc-rich volcanogenic massive sulfide deposits.

Paleoproterozoic 1.9–1.7 Ga Rocks of Northern Minnesota

One of the most profound events in Earth's history is recorded in the Paleoproterozoic rocks of Northern Minnesota. That event was the proliferation of cyanobacterial life on Earth in shallow water oceanic settings at the margins of eroded Archean cratons. This ancient life, which is recorded in the rocks as fossil stromatolites, released oxygen into the Earth's oceans and atmosphere and thus precipitated vast quantities of dissolved iron out of the ocean to form the chemical sedimentary rocks we call iron formation. Paleoproterozoic rocks occur in Minnesota from St. Cloud northeast to Moose Lake and Carlton, and north up to the Mesabi Iron Range near Eveleth and Hibbing. The southern part of the Paleoproterozoic terrane, approximately south of a line that runs west from Jay Cooke State Park, is a mixture of metamorphosed sedimentary and volcanic rocks and includes the Fe-Mn ore deposits of the Cuyuna iron range. To the south, these rocks were intruded later by several large granitic intrusions, emplaced between 1.80 and 1.76 Ga, that collectively form an amalgamation referred to as the East-Central Minnesota batholith.

The northern part of this terrane is made up of slate and graywacke, iron formation, and quartzite. The base of this sequence is quartzite, formerly sandstone, that was deposited on top of the older Archean bedrock. Above the quartzite is the Biwabik Iron Formation, long mined for its vast quantities of iron ore. Slate and graywacke overly the iron formation and covers a vast area from the Mesabi Iron Range south to Jay Cooke State Park, where one can easily see that it has been folded and deformed.

The metamorphosed volcanic and sedimentary rocks that make up the southern part of the Paleoproterozoic terrane are likely part of a former mountain belt, the Penokean orogen, that extended west from Lake Huron to South Dakota, and perhaps farther, from about 2.0 to 1.8 Ga ago. The eroded remnants of this belt have geologic similarities to modern mountain belts along the west coast of North America. Therefore, geologists infer that mountainous terranes comparable to those currently found in western California existed long ago in Minnesota. During this mountain forming orogenic event, the crust was uplifted, and a large basin formed to the north; sediment shed into this northern segment produced the thick sequence of slate and graywacke in the deeper parts, and along the northern margin of this basin, the Pokegama Quartzite and Biwabik Iron Formation were deposited forming the Mesabi Iron Range, one of the largest mining districts in the world. In 2019, the Paleoproterozoic age iron deposits of the Lake Superior region (Northern Minnesota and Michigan) accounted for 98% of the usable iron-ore products in the United States.

Mesoproterozoic 1.1 Ga Rocks of Northern Minnesota

Mesoproterozoic rocks of Northern Minnesota occur along the shore of Lake Superior, continue south along the Minnesota-Wisconsin border, and extend southwest into Kansas. These rocks formed around 1.1 Ga ago along the Midcontinent Rift system, a major feature that formed by the spreading apart of older continental crust. As the crust spread and thinned, fractures and faults formed, providing pathways for molten magma from the mantle to work its way to the surface, where it erupted as volcanoes. The base of the volcanic pile was intruded by magma that cooled more slowly below the surface, forming troctolite, gabbro, anorthosite, and granite. The wholesale partial melting of the Earth's mantle, and transfer of these magmas upwards into the Earth's crust, is the reason why Northern Minnesota hosts enormous quantities of critical minerals associated with the Mid-Continent Rift. Essentially every atom of copper, nickel, cobalt, platinum, palladium, gold, silver, titanium, vanadium, and iron known to exist in Mesoproterozoic age ore deposits of Northern Minnesota were transferred by buoyant magmas from the Earth's mantle to crust by these magmas. When volcanism ceased, blankets of sand,

now sandstone, were deposited in a basin on top of the volcanic rocks, such as the Hinckley Sandstone exposed in Banning State Park.

Rocks similar to the Mesoproterozoic volcanic rocks exposed along the north shore of Lake Superior were mined extensively for copper in Michigan, but no similar deposits of economic scale have been found here. In Minnesota, an enormous reserve of copper, nickel, cobalt and associated platinum, palladium, and gold exists at the base of the Duluth Complex, along the northwest edge of the Mesoproterozoic system, and in an intrusion near the town of Tamarack. The sandstones that overlie the volcanic rocks have been quarried in the past for building and paving stone, and gabbro and anorthosite is quarried for both dimension stone and road aggregates.

Mineral Resources of Northern Minnesota

Since the 1880s, two broad types of mineral resources have been actively mined and/or explored for in northern Minnesota. They are: 1) **Ferrous resources**, which include iron (Fe) deposits of the Archean 2.7 (Ga) Vermilion Range, the Paleoproterozoic 1.85 Ga Fe deposits of the Mesabi Range, and manganese-iron (Mn-Fe) deposits of the Cuyuna Range; and 2) **Non-ferrous resources**, which include the Mesoproterozoic (1.1 Ga) Cu-Ni-Co-PGE and Ti-V deposits of the Mid-Continent Rift. Also, numerous mineral exploration programs in the Archean 2.7 Ga greenstone belts of Minnesota over the last 60 years have identified numerous prospective lode-gold and copper-zinc target areas. This written testimony includes as a supporting document a bedrock geology and mineral resource map of Minnesota that highlights the 8th Congressional District (Peterson, 2022).

Ferrous Resources

The ferrous mineral resources of Northern Minnesota include several categories of marine chemocline mineral systems outlined in recent USGS publications (Schulz et al., 2017 and Hofstra and Kreiner, 2020). These categories include: 1) Superior-type iron deposits (Mesabi Range), 2) Iron-Manganese deposits (Cuyuna Range, 100 million tons), and 3) Algoma-type iron deposits (Vermilion Range (102 million tons). Brief descriptions of the geology and mineral resources of the Mesabi and Cuyuna iron ranges is provided below.

Superior Type Iron Resources of the Mesabi Iron Range

Superior type iron formation resources of Minnesota are exemplified by the long-standing mining of iron resources of the Biwabik Iron Formation along the length of the Mesabi Iron Range. The Mesabi Iron Range is largely located in St. Louis and Itasca counties and has been the most important iron ore district in the United States since ~1900. The Mesabi Iron Range is 120 miles long, averages one to two miles wide, and is comprised of rocks of the Paleoproterozoic Animikie Group. The Animikie Group on the Mesabi Iron consists of three conformable major formations: Pokegama Formation at the base; Biwabik Iron Formation in the middle; and the overlying Virginia Formation. On the Mesabi Iron Range, these three formations display gentle dips to the southeast at an angle of 3–15 degrees.

Leached and iron enriched direct ores (or natural ores) were the first materials mined from strongly oxidized pockets along fault and fracture zones and the blanket oxidation at the surface in the iron formation (Marsden et al., 1968), with the first shipment beginning in 1892. Taconite, which is the material that is mined today using magnetic separation methods, constitutes most of the iron formation and pertains to the hard, non-oxidized portions of the iron-formation. Maps of currently active taconite mining operations and the historic natural ore mines on the Mesabi Iron Range are presented on inset maps 1, 2, and 3 on the provided bedrock geology and mineral resources map (Peterson, 2022). Compiled grade/tonnage ore reserve calculations for the active taconite operations on the Mesabi iron range are given in Table 1.

Table 1. Recent grade-tonnage reserve estimates of the Mesabi Iron Range taconite mines.

Mine	~ Year	Category	Tonnes	*Fe %
Northshore	2019	Proven & Probable	829,096,800	24.3
United Taconite	2019	Proven & Probable	817,920,250	22.3
Hibbing Taconite	2019	Proven & Probable	123,856,495	19.7
Minorca	2018	Proven & Probable	101,000,000	23.5
Minntac	2019	Proven & Probable	420,644,700	?
Keetac	2019	Proven & Probable	373,906,400	?

* Reported as recoverable magnetic Fe %

~ Data compiled from company annual reports

Total Tonnes: 2,666,424,645

Mn-Fe Resources of the Cuyuna Iron Range

The Cuyuna Range is about 160 km west-southwest of Duluth in Aitkin, Cass, Crow Wing, and Morrison Counties, and is part of a Paleoproterozoic (1.9–1.8 Ga) geologic terrane which occupies much of east-central Minnesota. Since their discovery in 1904, it has been recognized that the iron-formations and associated ore deposits of the Cuyuna Range contained appreciable quantities of manganese which was extracted as ferromanganese ores from several mines on the North range from 1911 to 1984. The presence of this manganese resource sets the Cuyuna range apart from other iron-mining districts of the Lake Superior region.

The Cuyuna iron range is traditionally divided into three districts, the Emily district, the North range, and the South range. The Emily district extends from the Mississippi River northward through Crow Wing County and into southern Cass County. Although exploration drilling has been extensive in the Emily district, mining never commenced. The North range, located near the cities of Crosby and Ironton in Crow Wing County, was the principal site of mining activity (ceased in 1984) of the Cuyuna. The South range, where only a few mines were operated in the 1910s and 20s, comprises an area of northeast-trending, generally parallel belts of iron-formation extending from near Randall in Morrison County northeast for about 100 km. In addition to the three named districts, numerous linear magnetic anomalies occur east of the range proper, and may indicate other, but as yet poorly defined, beds of iron-formation.

Several attempts have been made over the last 70 years to estimate the size of the manganese resources of the Cuyuna iron range. For example, Lewis (1951) estimated that 455 million metric tons of manganiferous iron-formation containing from 2 to 10 percent manganese were available to open-pit mining to a depth of 45 meters. Dorr et al., (1973) used that estimate to establish that the Cuyuna range contains approximately 46 percent of known manganese resources in the United States. US Steel geologist Richard Strong (1959) estimated iron and manganese resources from several well-drilled deposits in the Emily District and Beltrame et al., (1981) estimated a minimum of 170 million metric tons of manganiferous rock with an average grade of 10.46 weight percent manganese. All of these historic grade/tonnage estimates should be considered with a certain amount of skepticism as they do not conform to current best practices of mineral resource estimation. A listing of the grade and tonnage from properties that Strong (1959) and Beltrami et al., (1981) estimated manganese resources is given in Table 2.

Table 2. Historic grade-tonnage estimates (non-NI 43-101 compliant) of manganese resource within the Cuyuna Iron Range. Table only lists those properties with estimated >500,000 tons of ore.

Property	Area	Year	Tons	Mn %	Mn lbs
West Ruth Lake Deposit	Emily District	*1959	24,012,200	15.28	8,088,891,898
Lake Mary Deposit	Emily District	*1959	8,536,562	8.30	1,561,700,137
East Ruth Lake Deposit	Emily District	*1959	4,874,300	7.65	821,956,313
Emily-Shawnut Reserve	Emily District	~1981	833,709	10.56	194,006,830
Zeno Reserve	North Range	~1981	1,284,211	12.81	362,676,390
Pontiac Mine	North Range	~1981	883,351	16.81	327,418,704
Gloria Mine	North Range	~1981	559,711	12.59	155,354,314
Sagamore Mine	North Range	~1981	641,491	8.79	124,279,088
Huntington Mine	North Range	~1981	866,032	3.59	68,479,191
Omaha Mine	South Range	~1981	1,507,189	3.14	104,335,269
Clearwater Lake Reserve	South Range	~1981	581,549	3.61	46,234,409

* Estimate from Strong, 1959

~ Estimate from Beltrame et al., 1981

Total Mn (lbs): **11,855,332,543**

Non-ferrous Resources

The non-ferrous mineral resources of Northern Minnesota include several categories of mafic magmatic mineral systems outlined in recent U.S. Geological Survey publications (Schulz et al., 2017 and Hofstra and Kreiner, 2020). These categories include: 1) Contact-type Cu-Ni-Co-PGE sulfide deposits; 2) Conduit-type Ni-Cu-Co-PGE sulfide deposits; and 3) Iron-Titanium oxide (Fe-Ti-V-P) deposits. All of these non-ferrous mineral resources are related to the 1.1 Ga Mid-Continent Rift. A summation of published values of known in-situ contents of base metals (Cu-Ni-Co) and precious metals (Pt-Pd-Au-Ag) for the contact-type and conduit-type mineral resources of Northern Minnesota is given in Table 3.

Table 3. In-Situ value estimate of the known mineral deposits of the Mid-Continent Rift in the State of Minnesota.

Metal Contents		Current Metal Prices		
Metal	lb/oz	Price	Unit	*Value
Copper	85,627,994,908	\$3.88	pound	\$332,236,700,000
Nickel	26,279,521,449	\$10.83	pound	\$284,607,000,000
Cobalt	2,107,878,394	\$15.84	pound	\$33,389,000,000
Platinum	26,331,801	\$1,074	troy ounce	\$28,280,000,000
Palladium	66,140,009	\$1,430	troy ounce	\$94,580,000,000
Gold	14,453,135	\$1,988	troy ounce	\$28,733,000,000
Silver	419,059,542	\$25.01	troy ounce	\$10,703,000,000
		TOTAL:		\$812,528,700,000

* Value rounded to the nearest million dollar
Data from NI 43-101 & related documents
April 28, 2023 metal prices

Contact-type Cu-Ni-Co-PGE sulfide deposits

Contact-type Cu-Ni-PGE magmatic sulfide deposits (Zientek, 2012) of the midcontinent of North America are exemplified by the large, mainly disseminated sulfide deposits that occur along the basal contact of the Duluth Complex where magmas intruded and incorporated footwall Paleoproterozoic Animikie Group metasedimentary rocks and Archean granitoids. Major deposits include Birch Lake, Maturi, Mesaba, NorthMet, Serpentine, and Spruce Road. Disseminated and local massive sulfide mineralization of the Duluth Complex was historically estimated to

contain about 4.4 billion metric tons of ore with average grades of 0.66% Cu and 0.2% Ni at a 0.5% Cu cut-off (Listerud and Meinike, 1977). Recent exploration and project development for many of these Duluth Complex contact-type deposits has led to upgraded mineral resource estimates for many of these deposits via the publication of numerous Ni 43-101 compliant mineral resource estimates. Combined together the upgraded estimate contains 9.57 billion metric tons with average grades of 0.406% Cu, 0.126% Ni, and 0.326 g/t Pt-Pd-Au.

Conduit-type Ni-Cu-Co-PGE sulfide deposits

Conduit-type Ni-Cu-PGE sulfide deposits are defined as magmatic sulfide mineralization restricted to small- to medium-sized mafic and/or ultramafic tube-like intrusions or dikes that served as pathways for flow-through of picritic and/or Mg-rich basaltic magmas (Schulz et al., 2014). These important sulfide deposits are unique in that they typically contain more metal and sulfur than could be derived from a magma volume equal to the limited volume of the small intrusions that host deposits. This implies that these deposits were products of a greater volume of magma than the current volume of the host intrusion. Thus, conduit-type sulfide deposits are the product of a large volume of magma that moved through open conduit systems, enriching an immiscible sulfide liquid with metals such as Ni, Cu, Co, and PGE. Rocks that make up host intrusions generally do not represent primary magmas, but are accumulations of olivine, pyroxene, and immiscible sulfide liquid.

The Tamarack deposit is the only documented conduit-type sulfide deposit in Northern Minnesota. The ultramafic Tamarack Intrusive, with a minimum intrusion age of 1105.6 ± 1.2 Ma (Goldner, 2011), is made up of several distinct intrusive bodies, including an ovoid-shaped Bowl Intrusion of oxide gabbro and two sulfide mineralized intrusive dike-like peridotite bodies that give the complex a tadpole shape (Taranovic et al., 2015). Mineralization at Tamarack consists of disseminated to net textured to massive pyrrhotite, pentlandite, chalcopyrite, and minor cubanite.

Ti-Fe-V Resources of the Duluth Complex

Small titanium-iron±vanadium oxide-rich, plug-like, discordant intrusions along the southern basal section of the Duluth Complex are called Oxide-Ultramafic Intrusions, or OUIs. Rock types carrying the Ti-Fe±V oxide mineralization in OUIs include dunite, peridotite, and pyroxenite, typically with more than 10% semi-massive to massive oxide zones (Severson and Hauck, 1990). Deposits, including the major OUIs Longnose, TiTac, and Water Hen, can also carry minor Cu sulfide mineralization.

Identified resources of Minnesota's OUI associated Ti-Fe-V deposits include the: 1) Longnose deposit, with a NI 43-101 indicated resource of 58.1 million tons averaging 16.6% TiO₂ (inferred 65.3 million tons averaging 16.4% TiO₂) based on 27 drill holes and using a cut-off grade of 8% TiO₂; 2) Titac deposit, with a NI 43-101 inferred resource of 45.1 million tons averaging 14% TiO₂ based on 32 drill holes and using a cut-off grade of 8% TiO₂; and 3) Water Hen deposit, with a crudely estimated 62 million tons averaging 14% TiO₂ and significant graphite resources, based on 37 drill holes.

Summary

Ore deposits represent the preferential concentration of specific elements within the earth via the transfer of mass and energy over space and time. The bedrock geology within the state of Minnesota represents a mosaic of geological terranes that facilitated ore-forming processes unique to this region and underpins a remarkable endowment of mineral resource wealth within the United States. The geology and mineral deposits of the Lake Superior area in general, and Northern Minnesota in particular, are unique. No other area of the United States of America hosts such an array of Precambrian rocks and the world-class ore deposits that these rocks contain. As the fifth most valuable state with respect to mineral production (USGS, 2022), Minnesota stands alone in its potential to advance the domestic supply of many critical minerals into the United States economy and lead the way toward a brighter future.

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Mr. STAUBER. I thank the witness for his testimony.

The Chair will now recognize Mr. Baltich for his testimony.

**STATEMENT OF JOE BALTICH, OWNER, NORTHWIND LODGE,
ELY, MINNESOTA**

Mr. BALTICH. Thank you, Mr. Chairman and members of the Committee. My name is Joe Baltich, and I am from Ely, Minnesota. We have established that already, but I am redundant. I am a small business owner who operates Northwind Lodge, a family oriented wilderness resort that has existed since my grandfather built the first cabin on Jasper Lake in 1939.

I live 15 miles northeast of Ely surrounded by the Boundary Waters Canoe Area border on three sides. In conjunction with the resort, I have spent 35 years in wilderness canoe trip outfitting and guiding, and we ran a cross-country ski center as well. I am also

an artist who paints fine art. And like many people who have spent their entire lives in Ely, my third job is as a bus driver for the Ely Independent School District 696.

As a tourism operator, I am exposed firsthand to the impact tourism has on the Ely area. Forty-five years of working in tourism proves it will always be a fluid, feast-or-famine business.

When I was a kid, like many other resort owners, my dad was also otherwise employed. He was a police officer for the city of Ely. He also guided fishing trips and trapped on the side. During my early years, our family food supply was often supplemented by hunting and fishing. Based on my life experience and observations, tourism alone will never carry the region. It just can't.

Upon graduating from college in the early 1980s, I ran for office and was elected as mayor of Ely. During that time we were coming off of a bad economic recession. Reserve Mine in neighboring Babbitt had closed for good, which resulted in 1,300 families leaving Ely.

As city council members, we were tasked with finding a viable industry to keep our people employed. We found that due to Ely's remote location, the high cost of shipping stifled our competitiveness. Ely ended up relying on non-tax-paying governmental entities to become limited job providers, and of course, we had summer tourism and some logging.

Today, as is evident in the empty homes and storefronts that now still line our streets, we are still struggling. In Ely, Goodwill couldn't even make it when selling a free inventory. Accordingly, I will say that the pandemic flurry of activity that we have just experienced will be fleeting as well.

Iron ore from Ely and the Range was consequential to winning World War II and also rebuilding war-torn Europe and Japan in the years following. After 88 years of unregulated massive iron mining into the early 1970s, the Federal Government found our most precious resource, our water, to be pristine enough to create a designated wilderness park called the Boundary Waters Canoe Area.

We were all told that the highly restrictive BWCA was going to be a big draw for tourism, but with about 100,000 visitors to the park per year spread over six different access regions and limited travel permits, that was a lot of baloney. Meanwhile, there are constant environmental lawsuits directed at mines for supposed BWCA pollution. Living next to this park feels like having a perpetually vindictive dog waiting to bite us for some environmentalist-perceived infraction.

Despite alleged dust and water from mining, our water is still clean, the air is fantastic, and our fishing is still awesome. We have abundant wildlife, this despite all the claims against the mining industry, which has operated for far longer than the Boundary Waters has existed. Like slip-and-fall attorneys, I am convinced that environmentalists mainly litigate for cash-flow.

Given the market-based volatility of the taconite industry, mining diversity is sensible. Copper-nickel would add regional stability to the Range. Filling the need for critical minerals mined and controlled inside the United States for the national defense is just plain smart.

With the massive tax dollars that would benefit all Minnesotans, the gains to the Mineral Trust fund for the schools and the strong market demand, copper-nickel mining is the way of our current and distant future. The year is 2023, not 1955. Modern mining technology and local miners are fully capable of performing well at both PolyMet and Twin Metals.

A current example of successful modern-day mining in a water-rich environment is the Eagle Mine in Western Market County, Michigan. They literally began mining copper in 2014 under Obama's EPA and have expanded their underground operations since. How come they can do it?

Ely is sitting on an estimated \$550 billion in copper-nickel. I will repeat, \$550 billion of copper-nickel. I want to see 200 and more year-round employed copper-nickel miners making \$85,000 per year while shopping in the region and at Ely's grocery store so it will be there when I am 80 years old.

Copper mining will actually improve the tourism industry. Just like Red Lake, Ontario, where for 40 years they have mined gold immediately next to their beautiful Woodland Caribou Park, our Boundary Waters will remain as it is today, beautiful and inaccessible.

Based on our state and Federal laws and regulations, plus an experienced, proud workforce, there is no rational reason that says Americans, namely iron rangers, can't get this done right. We can and we will. Thank you.

[The prepared statement of Mr. Baltich follows:]

PREPARED STATEMENT OF JOE BALTICH, OWNER, NORTHWIND LODGE

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Iron ore from Ely and the Range was consequential to winning World War II and also rebuilding war torn Europe and Japan in years following. After 88 years of unregulated massive iron mining into the early 70's, the federal government found our most precious resource—our water—to be pristine enough to create the designated wilderness park, the Boundary Waters Canoe Area. We were all told the highly restrictive BWCA was going to be a big draw for tourism, but with about

100,000 visitors to the park per year spread over 6 different access regions and limited travel permits, that was a lot of baloney. Meanwhile, there are constant environmental lawsuits directed at mines for supposed BWCA pollution. Living next to this park feels like having a perpetually vindictive dog waiting to bite us for some environmentalist-perceived infraction. Despite alleged dust and water from mining, our water is still clean, the air is fantastic, and the fishing is still awesome. We have abundant wildlife. This despite all the claims against the mining industry which has operated for far longer than the Boundary Waters has existed. Like slip & fall attorneys, I'm convinced that environmentalists mainly litigate for cash-flow.

Given the market-based volatility of the taconite industry, mining diversity is sensible. Copper nickel would add regional stability to the Range. Filling the need for critical minerals—mined and controlled inside the United States—for national defense is just plain smart. With the massive tax dollars that would benefit ALL Minnesotans, the gains to the Minerals Trust fund for schools and the strong market demand, copper nickel mining is the way of our current and distant future.

The year is 2023, not 1955. Modern mining technology and local miners are fully capable of performing well at both Polymet and Twin Metals. A current example of successful modern day copper mining “in a water-rich environment” is Eagle mine in western Marquette county, Michigan. They literally began mining copper in 2014 under Obama's EPA and have expanded their underground operations since. How come they can do it?

Ely is sitting on an estimated \$550 Billion dollars in Copper Nickel. I want to see 200 and more, year-round-employed copper nickel miners making \$85,000 per year while shopping in the region and at Ely's grocery store so it's still there when I'm 80. Copper mining will actually improve the tourism industry. Just like Red Lake Ontario where for 40 years they've mined gold immediately next to their beautiful Woodland Caribou park, our Boundary Waters will remain as it is today, beautiful and inaccessible. Based on our state and federal laws and regulations plus an experienced, proud, workforce, there is no rational reason that says Americans, namely Iron Rangers can't get this done right. We can and we will. Thank you.

Mr. STAUBER. I want to thank the witnesses for your testimony.

And now we will move to the questions portion. I first recognize myself for 5 minutes.

Ms. Johnson, Mr. Baltich, and Mr. Peterson, great to see you all again here today, and I appreciate you coming and giving your testimony.

Mr. Peterson, in your testimony you stated, and I quote, “no other area of the United States of America hosts such an array of Precambrian rocks and the world-class ore deposits that these rocks contain.” That is high praise. Yet, we are only mining iron right now compared to other non-ferrous deposits that you have mapped.

What makes the Duluth Complex, the Tamarack Complex, and the rest of our geology up here so special?

Dr. PETERSON. What makes us so special is what I described, the 1.1 billion-year-old Mid-Continent Rift. When you melt the mantle, you exchange all those elements from the Earth's mantle and drive them up into the crust. And there is no other part of the United States of America that something like that happened.

We have talked about the Eagle Mine in Michigan. That is part of the Mid-Continent Rift. It is part of the same process. But the rocks there have been uplifted a little bit differently than they are in Minnesota, so we don't see the intrusions at depth like we do in the whole of Duluth Complex.

In the Duluth Complex, as an intrusive body is the third largest known on Earth. It is gigantic. It has an intrusive body that goes from Duluth up toward Ely and then all the way almost to Grand Marais. It is a giant body of rocks that actually, when you are out

there, I mean, you go south of Ely on Highway 1, you cross the Kawishiwi River, and you will be in rocks that 100 percent of it is from the Earth's mantle. And there is nowhere else in the United States that has things like that at all.

Mr. STAUBER. Thank you.

Ms. Johnson, thank you for joining us today. The Tamarack project on state and local land is generating millions in revenue in Aitkin County and the state of Minnesota. Once the mine plan is offered and you were to get a project up and running, can you discuss the further investment that would follow and how that would further benefit an area in need of economic development?

Ms. JOHNSON. Yes. As I mentioned earlier, in 2021 the Minnesota DNR did a case study on the Tamarack project for the estimated royalty revenue, and that was estimated at over \$115 million. So, those funds would be broken down between the state, county, township, and the local school district.

And this is really a huge impact for our area in Aitkin County. If you are not familiar, Aitkin County has a population of approximately 9 people per square mile, and in the city of Tamarack, where our project is located, we have a population of 62 people. So, the revenue like this would be greatly beneficial.

Mr. STAUBER. In one of the poorest counties in the state?

Ms. JOHNSON. Yes.

And then for future jobs, we are currently estimating about 150 additional jobs to what we already have on site, which is about 80 for the mine operations. That is not including construction phase as well. So, there would be more to come with that.

Mr. STAUBER. All right. Can you discuss some of the local support for the Talon project?

Ms. JOHNSON. Yes. With my role with community outreach, I have the privilege of hearing a lot of different perspectives on our project. We have quite a few local year-round residents that we have built some strong relationships with. This project has been explored since 2002. So, a lot of times our supporters in the area, we often hear them say, "When are you going to finally start mining?" That is typically the question that we hear.

But we also hear people that have concerns as well just with the fear of potential negative impacts, and I really think that hearing those concerns is helpful at this early stage because we can incorporate those perspectives as we are still shaping our mine plan.

But overall in the community, I really would say that the majority of people are neutral. They understand and acknowledge the need for minerals and metals in our daily life, but they also want to see the environment protected. And that is a good thing, and I think that is what we are about to enter with our project as we start the permitting process.

Mr. STAUBER. Thank you very much.

Mr. Baltich, as a former mayor of Ely, you saw what happens to regions when mining operation is declining. And as a long time resort owner, you testified about the resort industry's feast-or-famine business. Can you share with the audience the impact that copper-nickel mining would have on Ely and the surrounding area and how modern mining can truly diversify the economy?

Mr. BALTICH. Sure. An immediate impact would be, if a mine was up and running, and they had a number of employees, those employees all have family. And back in the 1970s, when the mines were running, Reserve Mine was a big employer to Ely back in at that time. When they were operational, it was not uncommon at all to have lodge guests come to stay at our resort that had kids that were working in the mines and adult children with their families.

So, Grandma and Grandpa would come stay at the resort, and then they would have the grandkids for the day, they would babysit, they would go down by the beach, hang out and go fishing, or they would go visit the kids when the kid had a day off. But they didn't want to stay with the kids. They wanted to stay at a nice resort somewhere so they could have a nice time. And then when it is time to hand over the grandkids at the end of the day, you hand them over and then you go back to the resort and stay there in a nice cabin.

So, we used to see that all the time, and if we saw it, so did many other places. It is not just us. And the impact is a very direct impact from having employed people staying by us because we don't see that now. It is not often that we will see somebody who stays at the resort because they have employees working at the hospital or at the Forest Service maybe once in a while. But mining was a very regular thing.

So, we would see that. And my motivation for this whole thing is to keep a grocery store going for when I am old. I don't want to have to rely on Amazon.com to get my celery. I kind of want to have something when I am in Ely, because I am watching all kinds of beautiful storefronts in Ely that have stud walls inside. It is because there is nothing in them.

People fix up the outside, and they are waiting for somebody to come and rent it. Oh boy, how many years now, 7, 8, 9 years, they are waiting, and waiting, and waiting. It is time that we have something that gives solid year-round employment to a large body of people because we have an industry sitting here. It is just underground. And there is no reason why we can't be going underground 5,500 feet below the Earth's surface and mining and hauling it out. I just can't see how it is going to disturb anybody.

Mr. STAUBER. Thank you, Mr. Baltich.

My time has expired. I will now turn the questioning for 5 minutes over to Mr. Wittman from the state of Virginia.

Mr. WITTMAN. Well, Mr. Chairman, thank you. And thank you so much for holding this hearing. We are honored to be here in northern Minnesota in your district. What an incredible, incredible place. We are just very enthralled by the richness of resources here, but the most amazing resource are the people of northern Minnesota. So, thank you so much.

I want to thank our witnesses here today. Dr. Peterson, Ms. Johnson, Mr. Baltich, thank you so much. Thanks for sharing your perspective of things.

Dr. Peterson, I want to begin with you. I really am taken by your testimony about the richness of the mineral resources here in northern Minnesota. You talked about the Mid-Continent Rift and how it is unique geologically to this area. Give me your perspective. You know these resources probably better than any other geologist

on the face of the Earth. Give us your perspective quantity-wise as you would quantify how much of those non-ferrous minerals are here in this Mid-Continent Rift in northern Minnesota versus not just in the United States but maybe any other place in the world?

Dr. PETERSON. Yes. In my written testimony, I actually have some numbers. I don't know if you have seen those numbers.

Mr. WITTMAN. We did, yes.

Dr. PETERSON. I don't have that in front of me, so I don't know exactly the numbers, but I know those numbers are actually real. They are not mine. They are actually numbers that are what we call an NI 43-101 report. So, it is actually the companies like Duluth Metals that I was involved with, and all these companies, Talon probably, they have to disclose information to shareholders because they are public companies.

And there are rules. There are very strict rules. If anybody has ever had to deal with the SEC or something, there are very strict rules, so companies have to do this, and they have to actually disclose information. And those are all public documents. And over a long time, I can compile that information like anybody can. And Representative, you have those numbers, but I know in copper there is, defined in these resources is 86 billion pounds of copper. And anybody can do the math, right, \$4 a pound, it is like there it is. And those numbers are in-situ. That is actually the amount of material in the rock itself. You can't mine all that unless you do an open pit, but if it is underground, you have to leave quite a bit of it there because you can't mine it all.

But those are the numbers that are there, and all those numbers just represent the boundary of resources that have been drilled. There are a whole bunch of other areas, probably 15–20 percent of the known kind of mineralized zone are within those numbers. But there is not enough information to define them.

But there are gigantic numbers worldwide in copper, this type of deposit is I think the second largest, the third largest known kind of nickel resource of these kind of deposits formed from melting the mantle, which are the major sources of those metals on Earth. And the platinum and palladium, they are also gigantic numbers worldwide. And there is really nothing like it in the United States, anything else like that at all.

Mr. WITTMAN. So, would you agree that it would be safe to say that the value of this resource is probably over \$1 trillion in one of the largest complements of combined non-ferrous minerals anywhere on the face of the Earth?

Dr. PETERSON. Yes, I would agree with that.

Mr. WITTMAN. OK. Let me ask this too, we talk about these minerals, and there is a lot of attention now on critical minerals in rare-earth elements. Critical minerals are going to be key to our future as a nation, both economically and strategically. If you could give me your perspective, because we see companies like Tesla that are already trying to get obligations for those minerals, give us your perspective in you knowing where we are today strategically with the need for these minerals, your perspective on the importance to the United States both economically and strategically.

Dr. PETERSON. Yes. We certainly saw that through the pandemic that the supply chain issues are real, and they are becoming very real in the kind of mineral commodity thing. There are countries throughout the world that are buying up mineral resources all over the globe.

Mr. WITTMAN. Would it be safe to say those countries would include countries like China?

Dr. PETERSON. Yes, that would be safe to say. It is well known. They are buying all kinds of resources in Africa and so on, and kind of taking them off supply chains to the United States of America and just the Western world. So, those are real serious issues. And for a country like the United States, a very developed country, we need our own sources of minerals for our economy and for our national defense. Those are just the facts.

Mr. WITTMAN. Very good.

Mr. Chairman, thank you so much. I yield back.

Mr. STAUBER. Thank you.

Next, we will go to Representative Tiffany from Wisconsin for 5 minutes.

Mr. TIFFANY. Thank you very much, Mr. Chairman.

What I heard from you, Mr. Baltich, is that tourism and industry can co-exist. Is that correct?

Mr. BALTICH. Absolutely. I believe it 110 percent. We have done it forever. I mean, when you think about it, we had unchecked iron ore mining for 88 years. There was no government involvement in that. And I will illustrate. In the Pioneer Mine, where my grandfather worked for 16 years, he built a cabin and the resort just kind of evolved over the years, but he worked for 16 years in an underground mine that was a particularly crumbly, wet mine.

And they were pumping out of that mine 1 million gallons of water a day into Shagawa Lake, which is a lake that is right on the edge of Ely. Ely basically is right there. One million gallons a day, and that would go from Shagawa Lake, to Fall Lake, to Basswood Lake. That is right into the heart of the Boundary Waters, and from there it makes it all the way up to Rainy Lake, so it is in the Rainy Lake watershed.

And that happened, and during that time there were resorts running and people were doing business. Everybody was fine. And I wouldn't recommend dumping 1 million gallons per day now, that is insane. But that is what they did back then, and after all those years they still made the Boundary Waters a secure area.

Mr. TIFFANY. So, your business did better while industry was successful?

Mr. BALTICH. I am sorry. Say again?

Mr. TIFFANY. Tourism did better while industry was successful?

Mr. BALTICH. It does, yes, it absolutely does better when industry is there because we have more exposure. Our advertising mass as a tourism entity goes up.

Mr. TIFFANY. If I may interject, I have a lot of questions to ask here. I will just interject. I own a business called Wilderness Cruises in northern Wisconsin over the Minocqua area, and we had the same exact experience. We were in the hospitality tourism business. For all you young folks that are out there listening here,

this is not a mutually exclusive question. In regards to the environment and the economy, they work together.

We have a better chance to have a clean environment when we have a strong economy because then you have the tax revenues to be able to fund those programs oftentimes publicly funded as a result of having a strong economy. They are not mutually exclusive. You were at the Eagle Mine. Did you have a chance to go to the Eagle Mine?

Mr. BALTICH. No, unfortunately I have not been there.

Mr. TIFFANY. I would urge everyone, if you get a chance, go up to the Eagle Mine in the upper peninsula of Michigan in Representative Bergman's district, because it is an example of 21st century mining that can be done successfully and done in a perfect manner, which obviously, we don't want to do things like we did 60, 80, 100 years ago, and that is part of the reason we have such good permitting processes now. But if you want to see a mine that has just been built in the last 20 years in North America here in the upper Midwest, go up to the Eagle Mine.

Ms. JOHNSON, how was the maple syrup season this year?

Ms. JOHNSON. Not as good as past years, but we just finished up canning. We do a very small operation, so only a gallon of syrup.

Mr. TIFFANY. We just passed a bill, the debt ceiling bill. First of all, we passed the bill a couple weeks prior to that, but we included in the debt ceiling bill called H.R. 1, lowering energy costs, and it had permitting reform in it. And we did not reduce any environmental standards. We just changed the permitting processes, but we did not change the environmental standards. Are you willing to live by those high environmental standards? Do we need to reduce environmental standards in order to get these projects done?

Ms. JOHNSON. I would say, for our project, we are in the very early stages. We have not yet started our permitting process. We are also a bit unique because we are on state and private land, so we will primarily be going through a state permitting process with a few of the Federal permits. But, ultimately, our team is confident that we will be proposing a plan that will meet or exceed environmental standards.

Mr. TIFFANY. Mr. Peterson, in your experience, is it necessary to compromise environmental standards to be able to mine in the 21st century?

Dr. PETERSON. Absolutely not.

Mr. TIFFANY. Is it more likely for a manufacturer to build here, to manufacture in the United States if the minerals are produced here or if they are produced overseas?

Dr. PETERSON. If I was a general manager of the plan, I would want the minerals produced here so you have domestic supplies so you can actually—I mean, just go back a couple years in the pandemic and remember all of the boats off of Long Beach. There were dozens of them or hundreds of them sitting there waiting to unload, and they couldn't.

Mr. TIFFANY. So, we are more likely to have manufacturing here in this country, the downstream that is going to happen if we are producing the minerals here, right?

Dr. PETERSON. Yes, absolutely.

Mr. TIFFANY. Yes, no doubt about it.

I would just say in closing, this is all about three things in the big picture: Job security, economic security, and national security. That is what is at stake here for America. There used to be a mine that operated in my district, the Montreal Mine right here Hurley, Wisconsin, closed in the mid-1960s.

Then-candidate John F. Kennedy went there in 1960, and he went deep down in that mine, thousands of feet down in his wing-tip loafers, and he told those miners, you were every bit as important in us winning World War II as the people that were there at the front. That is how important this is that we be able to produce these minerals here in America. It is a necessity that we are able to do it.

Thank you very much, and I yield back, Mr. Chairman.

Mr. STAUBER. Thank you, Mr. Tiffany.

The Chair now recognizes my friend and colleague from Georgia, Mr. Collins, for 5 minutes.

Mr. COLLINS. Thank you, Mr. Chairman.

And as me being from Georgia, I don't talk as fast as Mr. Tiffany. I think I should get 30 percent more time.

You know, folks, I have only been at this job for about 115 days now, so I am the rookie in the crowd. And when I was out there campaigning, I liked for folks to know that I am in the trucking business, one of the most regulated businesses and industries that there is in this country.

So, it was very important that I wanted to make sure that we had oversight in every Committee that we had in Congress, to find out what is going on across this country, because I know if the regulations were hampering the trucking industry out there, it is across every industry that there is.

I don't know anything about mining. I have no idea. I thought I was coming up here to get a hat and a pickaxe. But from what I have learned, you all pretty much set the standard for today's industry of mining, right here in this area.

When I sit down at a hearing, I look at it from a businessperson's standpoint. What is the problem? What is the solution? And how do we fix this so that it doesn't happen again? So, that is what I would like to focus on.

Mr. COLLINS. Mr. Baltich, you and I think a lot alike. I am from a small town, and I know we talked about that. I just want to real quickly—I mean, my questions are pretty simple.

Do you think the permitting process now has become a weaponized tool used to prevent mining?

Mr. BALTICH. Yes, I absolutely do.

Mr. COLLINS. Can you expand on that as far as—

Mr. BALTICH. Yes. Not to interrupt.

It seems to me that it is taking a ridiculously long time. Well, actually, I can give you an idea. In 1978, the mining industry, and Minnesota, and the environmental groups got together to make us an arduous set of rules to restrict copper-nickel mining in our area because they knew that we were sitting on something, and since the early 1960s, they have been looking at our region for copper-nickel.

When I was a kid, I was given a little 1-inch by 1-inch cube of nickel, pure nickel. I have it somewhere in my basement. I can't find it. But I didn't know then what it meant, but I do now.

And they got together and made a set of rules in 1978. And they said, well, if the mining industry meets all these rules, all these requirements, then they can mine, or then they can explore. And they figured nobody would ever catch up with that.

And in 2005, mining technology went here. And all of a sudden, they were able to do that. And when they started doing that, they went to Minnesota and the groups and said, Here, we can hit all of these standards that you guys are requiring. All the requirements, we can meet them all. And Minnesota said, go ahead, start poking holes in the ground. Let's see what you find.

And the environmentalists went off the deep end and said they had no leg to stand on because they all signed off on this. They denied signing it. They said, we didn't do that. No, no, no. That is not true. Blah, blah, blah.

Well, you did sign it. So, what did they do? They moved to change public opinion against mining. And in 2006, they went after the Forest Service, and they made the mining industry—Twin Metals put together a \$1 million report that took from 2006 to 2012 to show that the birds, and the bees, and the crickets, and everything is going to be fine.

And it became a very restrictive process with suing all along the way, and it is all to weaponize the public opinion against mining. And I don't know if it is happening elsewhere in the world. I suspect it is. But it has become a popular way to do it.

Mr. COLLINS. And that is exactly what I am getting at. It was 2 weeks ago when I was talking about the financial industry and our community banks. And it is all about moving the goalpost. Every time you get to where you think you are able to get the permit or you meet what is adequate for the Federal Government, they move it one further step.

Mr. BALTICH. Right. Oh, you need this.

Mr. COLLINS. We just had this so-called infrastructure bill that was passed in the previous Congress, \$1.2 trillion, and \$591 billion of it actually went to infrastructure. The rest of it went toward the Green New Deal.

Now, this does not make any common sense, folks. Here we are, we are buying our critical minerals from people that want to take us over and hate us. The Communist Chinese people. And we have mining sitting right here with the best processes in the world.

Mr. Baltich, do you think that the United States can do a better job mining than China that is using child labor?

Mr. BALTICH. Yes, very much. It is almost kind of laughable. China is over there doing whatever they do, and our environmental groups seem to be fine with that. And I don't understand how you can be fine with that knowing what we know about China.

And then there is a thing called the stratosphere and various other spheres that are running over us. Every time they send up a cloud of dust in China, it ends up raining down in the Boundary Waters Canoe Area. We get mercury from them. I am sure we get heavy metals and other sorts of pollutants, because we are on a globe and the air runs around it.

Americans do a much better job, and I will testify to the Americans on the Iron Range because I know a bunch of them. Years ago, they used to take a D9 Cat that they were pushing rocks around in a mine, and it needs an oil change. It has 40 gallons of oil in it. They would just open the spigot, dump it on the ground, and say, well, it keeps the dust down. And then they would shut the spigot and dump 40 more gallons of oil in that Cat. Try to find somebody today who will do that. That doesn't happen. It is not going to happen.

None of our guys who mine, the employees do not want to mess up their backyard. This is where we hunt and fish. They want to take care of the environment, and so does management. We do an immensely better job than a lot of places in the world because this is our home.

Mr. COLLINS. Thank you, Mr. Baltich.

Mr. Chairman, I know my time has expired, but I think it is pretty easy to see that we have found the problem. It is the Federal Government. The solution is to get them off our back, and to keep them off of there, this H.R. 1 needs to be passed.

Mr. STAUBER. Thank you.

The next Member of Congress who is going to question is my good friend from Indiana, Mr. Bucshon. You are up for 5 minutes.

Mr. BUCSHON. Thank you, Mr. Chairman. And I want to thank you and the Committee for inviting me to waive on this.

I am from southwest Indiana, and my dad was an underground coal miner for Peabody for over 30 years. It is a different type of mining, but it is similar.

I serve on the Energy and Commerce Committee, Energy Subcommittee. And this issue is critically important to our energy future in this country.

Ms. Johnson, maybe I can ask you. What are some of the common misconceptions about modern mining that has resulted in some environmental groups wanting to ban mining and wanting the Administration to ban mining in certain areas of Minnesota?

Ms. JOHNSON. I think we have touched on it a few times, but—

Mr. BUCSHON. I think this is something we have to say over, and over, and over again.

Ms. JOHNSON. Yes, I think it is the comparison to how mining was done historically. And it is just not the same anymore. Like we touched on, modern mining isn't allowed to do the things that happened long, long ago.

And I also think a big part of it is public education about the entire process. For our project specifically, we are in the early stages. We have not yet shaped our final plans to start permitting. But early on, we have been trying to engage and educate the public on all the work that happens early on. We are not just submitting a plan and saying, let's go, without having all of the knowledge ready.

We do a lot of work being as transparent as possible. We actually have an open-door policy at our project just in the exploration phase. So, people are able to come to our project. They can see firsthand how we go about exploring, meet our team, talk to our environmental scientists, and really get a better understanding of the full process. And I think that is what is needed.

Mr. BUCSHON. Yes. I think that is right.

Anybody else have any comments about that?

Dr. PETERSON. Yes, I do. I mean, there is a perception that mining companies don't care about the environment, which is the farthest thing from the truth, right? All the people from the top on down, everybody. I am a geologist, so I have spent my life out in the field, and I don't know how many times I have been in the Boundary Waters. I love camping and fishing, and I just love being out in the, I just call it the bush, right? It is my place, the most comfortable place on Earth for me is actually being out in northern Minnesota.

But there is another thing. I can just think of Talon. If you get this thing all defined, what are you going to do? They are going to go to the bank, right? We need a billion dollars. Has anybody ever gone to the bank and asked for a billion dollars? It is not a simple task.

Mr. BUCSHON. I can't say I have.

Dr. PETERSON. I mean, environmental impact statements are hard. But convincing a bank to give you a billion dollars is even harder, right? They are so risk adverse, and what do they ask? They ask about environmental issues. It is just engrained in you.

So, people in mining actually totally get that. We have to do this because if we don't do this correctly, there is no way this project is going forward, because we will never get the money to actually do it. So, that is what I want to add to that.

Mr. BUCSHON. I have experienced this in the coal mining industry. Compared to the way it was when my great grandfather was a coal miner back in the 1930s, compared to today and where we are technology-wise, and also, as both of you pointed out, everybody in the industry lives on the Earth and they want to protect the environment.

I have a big agricultural area, and another issue, sometimes we have things related to agriculture and farmers. And, again, environmental groups are critical of the farmers for a variety of different things. There couldn't be more people more strongly for the environment on the face of the Earth other than people that plant and utilize the soil as their job every day.

So, I think one of the things that is important, I found, is to bring people—like this hearing, bring people. We need to have some of our colleagues that have a different view of ours come here, because unless you are there and you talk to the people, I find that you really can't make a good judgment.

And I will just say this as I close. I invited President Obama to come to an underground mine in my district. I invited him personally having to come to the district for something else, and I invited him. And he never came. But if he would have talked to the workers and saw what was happening, I think maybe their view of the situation would have been maybe a little different.

I yield.

Mr. STAUBER. Thank you very much.

Before we get to the last speaker, I have been told that the buses need to pick up the students. People, if you are parked in a bus lane, please move your vehicle immediately. The buses have to get

in. And if you even think you are parked, go double-check so the buses can safely unload the children from the school.

And our last Member of Congress is General Jack Bergman from the great state of Michigan. Congressman Bergman, you are up for 5 minutes.

Mr. BERGMAN. Thanks, Mr. Chairman. And thanks for inviting me to join you all. This is really coming back to my roots in so many ways.

When my dad's family came to the United States from Sweden, my grandfather was actually born in the company mine clinic in Montreal. And Representative Tiffany mentioned that my grandpa was an iron miner. On my mom's side, we had relatives who lived and worked the mines in Hibbing for a very, very long time.

So, for me, this is a chance to rekindle some thoughts I had as a young boy and as a young man as I chose professions and watched my friends decide what they wanted to do in life. But the one thing—at least the guys and gals that I hung around—was we all loved the outdoors.

And by the way, I left the snow in the U.P. when I came here yesterday. I wanted you to know, I did not bring it with me. But we got a foot of new snow yesterday, and I had to cut a tree out of my driveway to get on the road to get over here.

But the point is, we are all God's people. And guess who put all the minerals here? It wasn't happenstance. It is part of God's plan. But the idea that there are entities, and they pretty much by and large break down to governmental entities, who are energized by a few probably nice but clueless individuals who don't understand what it means to enjoy the environment, to do all the things we do with the environment, whether it is grow, whether it is mine, whether it is fish, whether it is you name it. But we are so blessed to live in the part of the world that we live in with all of its natural resources.

I would suggest to you, as my colleague Mr. Collins talked about government being part of the problem, I think one of the uniting factors in Washington, DC that I have seen amongst moderate folks who can see both sides of the coin and in some cases a third edge, it is war on the Federal bureaucracies that control all the issues that we are talking about here, which is taking a permitting process and extending it past the reasonable length where anybody in any endeavor would say, you are just messing with me now. You are not actually finding any results.

So, I think what we can do better at the Federal side is cut down the bureaucracies and get the Federal Government out of your pockets, off your backs, and out of the way.

Speaking of bureaucracies, I guess what I would ask the panel is, you have Federal bureaucracies and you have state bureaucracies. Would any of you care to comment on how the state of Minnesota, because they are a sovereign state here, how they are reacting and being a partner or not as far as moving mining forward?

Mr. BALTICH. Well, at the governor's level, we don't have any support; I don't feel we have any support at all from Governor Walz. And he is hanging in with all the environmental groups against mining. He is pushing for a green industry, but he is not

supporting mining in northeastern Minnesota. I don't understand how you can connect those two dots.

We want to have electric cars, which need a lot of copper. The average Toyota Prius, which is a hybrid, takes 75 pounds of copper. I don't know how many pounds goes into an electric car just of nickel. I mean, when Talon gets up and running, they are going to do very well on all that nickel that they are going to need.

But meanwhile, we don't have enough resources right now to do all that the Governor wants to do in a very short amount of time, and yet the Governor isn't supporting mining in his own state. As we are lining up for this big pipe dream, we could at least be mining in Ely and being ready to go, as opposed to, I am going to expound just a touch.

The Boundary Waters Act has a paragraph that says, that is P.L. 95-495. It says that the President, in times of national need, can override the entire Boundary Waters law. And that means that he can go 5 miles past my house and start drilling where the copper-nickel is right at the surface in Lake 1 and just start pounding, pecking at the rocks right there and doing whatever they need to do because we are in a national emergency.

So, does it make more sense that our governor has a mine in place so we are ready to mine in case of a national emergency? Wouldn't it be better to have the infrastructure here now instead of waiting until—oh, my God, we are being invaded. We have to go start digging up rocks and wreck everything.

We could have the mine, we would have the infrastructure in place. Our governor is not doing that. Our legislature is not doing that. They are chasing transgenderism and gosh knows what else.

Dr. PETERSON. Can I add for a second here?

Mr. BERGMAN. So, what I heard you say—now, I am a Marine, so I am very—you know, two-syllable words. Don't confuse me. Give me the color crayons you want me to use. In case any of you engage in these inter-service cultural jokes.

But what I just heard you say is that what we are trying to do as the Federal Government, the leadership—let's put it this way—the people occupying the leadership positions in Minnesota right now still could be part of a problem ongoing when it comes to unraveling the ball of string and pulling out the bad pieces so that we can get moving forward.

Dr. Peterson or Ms. Johnson, would either of you care to comment from your perspective on your interactions, let's say with the University of Minnesota or other state and federally funded institutions as you do research? Any thoughts on their commitment to good results in mining?

Dr. PETERSON. Yes, absolutely. From a geology perspective, the state of Minnesota is probably the best in the country in that they have funded really strong geological surveys. The DNR has the Drill Core Library. I don't know if you guys, it is unbelievable.

A lot of the ideas behind it go way back to the foundation of the University of Minnesota with people by the name of Pillsbury and things like that. And a lot of these things that have happened in Minnesota is because of the Iron Range and because of the University Trust Fund and so on, and how much money, royalties

the University of Minnesota made by mining university-owned land from the Minnesota territory kind of thing.

And there were some very smart individuals at the university who have gone into state government preserving data. So, the DNR has an incredible treasure trove of geological data. They work extensively with the U.S. Geological Survey. Just our——

Mr. BERGMAN. So, we have a lot of, what I heard you say, a lot of capabilities, a lot of understanding and knowledge that is based in fact.

Dr. PETERSON. Yes.

Mr. BERGMAN. Not fantasy.

Dr. PETERSON. Absolutely.

Mr. BERGMAN. Ms. Johnson, any closing thoughts here? Because my time is way over.

Ms. JOHNSON. Yes. I think I would just add to what Dean has said. We are in that early stage of our project. So, with exploration, I would say we have a really good relationship with the DNR with our mineral exploration permits. As we move forward to the environmental review and permitting process, we are just hopeful for a science-based, fair, and timely process.

Mr. BERGMAN. Well, we are the United States of America. The best solutions come at, by far, the local levels. And I would suggest to you, I think Michigan and Minnesota right now have a couple things in common. They have a lack of leadership in the State House. But I will leave that for another conversation for a different time. And that could probably lend us all the way out to 1600 Pennsylvania in Washington, DC. But we have an opportunity to change that here.

So, Mr. Chairman, thank you very much for the opportunity.

And thank you all for being here, especially all of you in the crowd.

Mr. STAUBER. As we conclude, I want to thank the witnesses for your valuable testimony and also the Members for their questions. Again, thank you for coming up to northern Minnesota and really being able to examine Minnesota's mineral wealth. As you have heard, there is only one other state that has more mineral wealth than Minnesota, that is Alaska.

The members of this Subcommittee may have some additional questions for the witnesses, and we will ask you to respond to these in writing. Under Committee Rule 3, members of the Committee must submit questions to the Committee Clerk by 5 p.m. on Friday, May 5. The hearing record will be held open for 10 business days for these responses.

If there is no further business, without objection, the Committee stands adjourned.

[Whereupon, at 2:40 p.m., the Subcommittee was adjourned.]

