Testimony of
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Strategic and Critical Minerals Policy: Domestic Minerals Supplies and Demands in a Time of Foreign Supply Disruptions

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Good morning. I am Hal Quinn, president and chief executive officer of the National Mining Association (NMA). NMA is the national trade association representing the producers of most of the nation's coal, metals, industrial and agricultural minerals; manufacturers of mining and mineral processing machinery, equipment and supplies: and engineering and consulting firms, financial institutions and other firms serving the mining industry.

I want to thank the Subcommittee for holding this hearing to address a serious challenge to our economic and national security – the availability of the critical minerals that are the building blocks of our society. And these minerals are critical. Using one metric, the value added from industries consuming the $64 billion in raw materials from U.S. minerals mining translates into $2.1 trillion, or 14 percent, of our GDP. Yet today, less than half of the mineral needs of U.S. manufacturing are met from domestically mined resources. And when secure and reliable mineral supply chains disappear from our shores so do the downstream industries, related jobs, innovation and technology that depend on them.

Overall, the United States' import dependence for key mineral commodities has doubled in the span of two decades. This is not a sustainable trend, particularly in a highly competitive world economy in which the demand for minerals continues to grow. These dynamics has led NMA to launch a new education and outreach effort, Minerals Make Life, and we are ready to work with our elected leaders to ensure public policies and procedures address the challenges before us.

The Backdrop

Fast growing economies led by China and India have created an historic super cycle for commodities—one we have not seen on such a scale since the American Industrial Revolution more than a century ago. Metals are at the epicenter of this historic transformation of nations from agrarian-based societies to industrial and urban commercial centers. Consider the following megatrends:

- For the first time in our history, more than half of humanity lives in urban areas. It is forecast that more than 70 percent will be located in urban centers in the next 40 years. In China, alone, we are witnessing the largest internal migration in human history with perhaps 625 million Chinese living in cities by 2015. By 2025, there will be at least 29 mega-cities globally with more than 10 million people. These cities all require tremendous infrastructure to electrify, connect and transport their citizenry.

- At the same time, we are in the middle of an unprecedented explosion in the world middle class, and the pace will continue to pick up significantly. Some estimate that 25 percent of China's population qualifies as middle class—more people than the entire U.S. population today. And, China's middle class is expected to double in the next decade. Entre to the middle class brings with it expectations for better medical care, more goods and services, improved housing, safe drinking water and other hallmarks of a better life. All depend on minerals.

• What we see in China is also underway in other emerging countries such as India, Indonesia and Brazil. The demographics all point to sustained momentum behind these trends.

The Peril

It is important that we understand these critical trends because they will shape our future, presenting opportunities and challenges for both U.S. mining and the nation. These trends point to enormous growth and job-creation opportunities if U.S. mining is allowed to perform to its potential. If we do not, and become increasingly marginalized, the consequences are severe for our nation's global competitiveness as we become more reliant upon extended and unstable supply chains for what we can produce here.

Recognizing that resource constraints can limit its growth, China, for one, has developed a comprehensive and multi-faceted strategy for assuring future supplies of minerals.

A powerful example of China's aggressive strategy to ensure access to needed minerals involves rare earth elements (REE). REEs are valued for their magnetic and optical properties and used in weapons systems, computers and energy technologies. Twenty years ago, the United States was the major producer of REEs. Today, China supplies more than 95 percent of world demand. China also recognizes the benefits of forward integration to its economy and technological advancement. As a result, it has changed its business model from exporting rare earth minerals to exporting finished products using REEs such as electric motors, computers, batteries and wind turbines. While the U.S. is reviving its REE production capability, we have let the situation go on far too long for these and other minerals commodities.

America's drift away from greater self-sufficiency for the basic building blocks of our economy compromises our economic and national security and ignores this country's rich reserves of metals and minerals. It is time for policymakers to meet head-on the larger issue of how our country can produce more domestic minerals to meet a greater share of our needs.

The Potential

The United States has the resources and the know-how to meet more of its domestic mineral needs. From a global perspective, the United States enjoys inherent advantages. Our mineral endowment is immense and enviable. Our bench is long and deep. According to the United States Geological Survey, when it comes to copper, silver and zinc and other key minerals "what is left to be discovered in the U.S. is almost as much as what has been discovered."
Beyond our rich mineral endowment, we also enjoy several other inherent advantages. We have a global-leading workforce in terms of skill and productivity. We possess top quality rail and port infrastructure for moving commodities to market. We enjoy an electricity infrastructure that is top of class in terms of

quality, reliability and cost—thanks to abundant and low-cost coal. And the depth of our capital markets allows access to the capital necessary to find and develop new resources.

The Performance

Our resource potential and business advantages should provide us a leg-up globally. And yet, by several measures we are performing below our potential.

- When viewed through the lens of resource potential, we are punching below our global weight. If we had produced to our resource potential for copper, molybdenum, and iron ore—basic ingredients for key sectors of our economy—an additional $32 billion of revenue would have been registered in 2008—and multiply that by the value added to the GDP by major industries that convert these materials into finished products, and U.S. mining could have been the starting point for an additional $1 trillion in economic output.

- Finding new resources and delineating their economic potential is critical to keeping the commodity pipeline flowing. Here again, we see a disturbing trend with the percentage of worldwide exploration spending commanded by the U.S. dropping from 20 percent in 1993 to only 8 percent today. The percentage of global exploration spending is a leading indicator of where future development capital will be deployed. If you do not put the money in the ground, you cannot get the minerals out.

- Until recently, the U.S. was the global leader in value added of mining to the nation's GDP. We have now slipped to second, but more concerning is that when we look at the ratio of our capital expenditures to the value add of mining to the economy, we lag so substantially that absent significantly higher investments, the U.S. is unlikely to maintain its current overall GDP rank.

The Public Policy

So while the United States has one of the world's greatest mineral repositories, our ability to get these minerals into the supply chain to help meet more of America's needs is threatened. Numerous public policies have placed high hurdles in our lane of the global race to remain competitive.

- **Access**

Twelve western states are the source of much of our nation's mineral endowment. Federal lands comprise almost 40 percent of the land area in those states. Half of that is either off-limits or under restrictions for mineral development. Unknown amounts of resources on adjacent state and private lands are also sterilized because of federal land restrictions. Both the elected and unelected continue to propose placing more of these lands off-limits.

- **Taxes**

U.S mining struggles under the world's highest statutory taxation rate. And our payments to local, state and federal government in 2008, the last year for which we have complete data, resulted in a 41 percent effective tax rate for U.S. metals mining operations, according to an analysis by PricewaterhouseCoopers. Many of the countries we compete against for development capital have already instituted rate cuts or targeted reforms to attract investments in mining. Here in the United States, we more often see proposals that would add additional taxes or fees on mining and eliminate the percentage depletion allowance that allows us to secure the enormous financial commitments necessary for capital intensive enterprises.

- **Regulatory Burden**

The federal regulatory burden has recently been estimated to cost the U.S. economy $1.75 trillion annually. On average that amounts to about $8,000 per employee. The intensity is higher for an industry such as mining that must make regulatory filings and obtain government approvals for even the slightest changes in operating plans.

Regulatory costs can slowly drown an enterprise. But the uncertainties and delays in obtaining permits to commence operations can crush the mining enterprise before it even gets in the dirt. Permit delays pose the highest hurdle for domestic mining with necessary government authorizations now taking close to 10 years to secure. If commodity cycles are historically 20 years in duration, the 10-years it takes to obtain permits leaves U.S. mining still in the starting blocks with the race half way over.

Crafting Solutions

As Congress investigates long-term solutions and strategies to address our nation's mineral needs, it must also consider that many of today's emerging technologies rely on combinations of a variety of different minerals—not just single commodities. As new applications are found, markets for mineral commodities will expand considerably along with demand. For example, as cell phone technology has advanced, so too have the number of minerals needed to send an e-mail, take a photo or capture video. Today, cell phones are made from as many as 42 different minerals, televisions can be composed of 35 different minerals and computers are built from 66 different minerals.

Conclusion

An overreliance on imported minerals coupled with flat production at home, places the United States at greater risk of supply disruptions in an increasingly minerals-competitive world. Minerals are the building blocks of our future. Achieving sustainable economic growth will require a steady supply of minerals that will enable American corporations—large and small—to develop and make the technologies that will propel our economy, enable our country to compete globally,

and improve the quality of our lives. The technologies that define innovation today all depend on minerals—lifesaving medical devices, smart phones and advanced energy technologies alike require minerals to function. The United States' ability to continue to innovate will depend on how we meet tomorrow's needs.