Testimony of

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before the
United States Senate Committee on Energy and Natural Resources

Hearing on
The United States' Increasing Dependence on Foreign Sources of Minerals and Opportunities to Rebuild and Improve the Supply Chain in the United States

March 28, 2017

Good morning Chairman Murkowski and members of the Committee.

My name is Alf Barrios and I am the Chief executive of Rio Tinto Aluminum. I sit on the Rio Tinto Executive Committee and serve as the company's country sponsor for Canada and the United States.

Rio Tinto is a global mining company operating in 35 countries with 50,000 employees and we are particularly proud to have been operating in the United States for over 100 years.

As the Rio Tinto U.S. country sponsor, I oversee and coordinate all of our activities across the U.S., including our operations: Kennecott Copper in Salt Lake City, Utah, Resolution Copper in Superior, Arizona and Rio Tinto Boron in California.

I appreciate the opportunity to provide this testimony on a very serious, yet often ignored issue, the United States' increasing dependence on foreign sources of minerals. I am pleased that the hearing goes beyond a discussion of the problem to seek solutions for rebuilding and improving supply chains in the United States.

Growing Mineral Import Reliance is a Troubling Trend

The most recent *Mineral Commodity Summaries* by the U.S. Geological Survey (USGS) should set off alarm bells in the White House and Congress. The study, published earlier this year, indicates that the United States is now import-dependent for 50 different metals and minerals – and 100 percent import-dependent for 20.[1] That's half of the naturally-occurring elements on the Periodic Table. The trend line is troubling: U.S. mineral dependency is at a record-high, now double what it was 20 years ago. During that same timeframe, investment in minerals exploration projects has dropped from 20 percent to 7 percent. This drift away from greater self-sufficiency for the basic building blocks of our economy compromises our economic and national security and ignores North America's rich reserves of metals and minerals that are the front-end of the manufacturing supply chain.

Dependence on imported essential materials to meet the needs of key domestic industries, such as manufacturing, leaves the United States unnecessarily vulnerable to disruptions to vital supply chains. Today, U.S.

[1] USGS, *Mineral Commodity Summaries 2017*, available at https://minerals.usgs.gov/minerals/pubs/mcs/2017/mcs2017.pdf

manufacturers rely on imported minerals to meet more than half their needs. If key minerals or metals are suddenly unavailable – due to political instability in a source country, shipping disruptions or restrictions on mining access – the whole supply chain could grind to a halt.

These trends are unsustainable in a highly competitive world economy in which the demand for minerals continues to increase and stability of supply is a growing concern. This point was underscored by KPMG in a report that looked at sustainability megaforces and predicted by 2030 that 83 billion tons of minerals, metals and biomass will be extracted from the earth, 55 percent more than in 2010. The study authors conclude: "the message is clear; over the next 20 years, demand for material resources will soar while supplies will become increasingly difficult to obtain."[2]

We have a real opportunity to realize the full potential of the domestic mining industry. Clearly demand for minerals is increasing as global population expands and minerals are used in a greater range of applications, particularly associated with the deployment of new technologies. The mining industry is poised to provide even greater contributions to the economy building upon the 2016 value added to America's gross domestic product (GDP). In 2016, the value added by major industries consuming mineral materials is $2.78 trillion – nearly 15 percent of U.S. GDP.[3]

Manufacturing and technology sectors have expressed heightened concerns about securing access to the minerals they need when they need them. According to a survey of 400 manufacturing executives, more than 90 percent are concerned about supply disruptions, citing geopolitics and increasing global demand as the most pressing factors. In addition, 80 percent of U.S. manufacturing leaders recognize the importance of sourcing domestic minerals and metals, noting decreased dependence on foreign minerals and metals and strengthened national security as reasons for doing so. Nearly 85 percent believe a strong domestic supply chain of critical minerals and metals will ensure job creation and economic growth in America.[4]

As for re-shoring American manufacturing capability, the Rand Corporation has documented the threats to U.S. manufacturing from our increasing mineral import reliance. In a 2013 study, Rand warns this situation makes "U.S. manufacturers vulnerable to export restrictions. that can result in two-

[2] Expect the Unexpected: Building business value in a changing world – KPMG, 2012
[3] USGS, *Mineral Commodity Summaries 2017*
[4] Edelman Berland, Survey of U.S. Manufacturing Executives (September 2014).

tier pricing, under which domestic manufacturers in the producing country have access to materials at lower prices than those charged for exports, thereby hindering the international competitiveness of U.S. manufacturers and creating pressure to move manufacturing away from the U.S. and into the producing country.[5]

Permitting Delays Are the Most Significant Impediment to Providing Additional Domestic Supplies of Minerals for Infrastructure Projects

An outdated, inefficient permitting system presents a major barrier to the domestic mining sector's ability to perform to its full potential and supply more of our infrastructure needs. The U.S. has one of the longest permitting processes in the world for mining projects. In the U.S., necessary government authorizations now take approximately seven to 10 years to secure, placing the U.S. at a competitive disadvantage in attracting investment for mineral development. By comparison, permitting in Australia and Canada, which have similar environmental standards and practices as the U.S., takes between two and three years.

Authorities ranging from the National Academy of Sciences to the Departments of Energy and Defense to international mining consulting firms have identified permitting delays as among the most significant risks and impediments to mining projects in the United States.[6] Most recently, the U.S Government Accountability Office linked the need to streamline the mine permitting process to mitigate supply risks.[7]

These delays have real consequences. The National Mining Association (NMA) commissioned a study that will be discussed in more detail by the witness from S&P Global Market Intelligence that demonstrates empirically the destruction of value which results from unnecessary, extended delays to project development.[8]

While not included in the S&P study, Rio Tinto's Resolution Copper project is currently in the permitting process. This world class copper deposit represents one of the largest undeveloped copper resources in the world and is anticipated to have a 50-year mine life that will support thousands of

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[5] Rand Corporation. *Critical Materials: Present Danger to U.S. Manufacturing,* (p. ix), 2013
[6] *See* National Resources Council*, Hardrock Mining on Federal Lands,* National Academy Press (1999); U.S. Department of Energy, *Critical Materials Strategy* (Dec. 2010); U.S. Geological Survey USGS, *the Principal Rare Earth Elements Deposits of the United States—A Summary of Domestic Deposits and a Global Perspective*, 2010; Behre Dolbear, *Where Not to Invest* (2015).
[7] GAO Report 16-699, *Advanced Technologies: Strengthened Federal Approach Needed to Help Identify and Mitigate Supply Risks for Critical Raw Materials,* Dec. 2016
[8] SNL Metals & Mining, *Permitting, Economic Value and Mining in the United States,* June 2015.

jobs annually and many millions in tax revenues. The U.S. Forest Service is the lead regulator for the project and has been a constructive and responsive partner in the NEPA review process. The NEPA review process was started in November of 2013. While Rio Tinto has spent over $1.3 billion on the Resolution Project for permitting, studies and project shaping, the project is years away from a final permit. In other countries, a project entering review in late 2013 would be in the last laps of the permitting process – or even commencing production.

Solutions are Necessary

The efficiency and predictability of the permitting process matters in decisions about where companies chose to invest. Adverse public policies such as the U.S. Environmental Protection Agency's proposal to duplicate state and federal financial assurance programs can also be significant deterrents to investment and the development of a sustainable resource sector.

To address supply chain vulnerability and import dependence, President Trump and Congress should continue to examine ways to improve the permitting of new U.S. mines and smelters, eliminate duplicative regulations and support policies that encourage resource and materials innovation.

There is strong public support for policies that enable the use of domestic resources for infrastructure. In fact, a new poll conducted this week reveals that 71 percent of voters support using domestically-sourced materials for infrastructure and that 65 percent support enacting policies such as shorter permitting timeframes for mining projects to ensure timely access to important minerals and metals that build steady and stable supply chains.[9] Manufacturing executives are equally supportive of ensuring efficient permitting as 95 percent of executives surveyed are worried that the lag in the permitting process for new mines has a serious impact on their competitiveness.[10]

Legislative action has an important role to play as well. The mining industry strongly supports efforts in the House and Senate to address the mine permitting process, including S. 145, the National Strategic and Critical

[9] Polling Shows Strong Support for Policies that Encourage the Use of American Minerals in U.S. Infrastructure, Manufacturing http://nma.org/2017/03/20/polling-shows-strong-support-for-policies-that-encourage-the-use-of-american-minerals-in-u-s-infrastructure-manufacturing/

[10] Edelman Berland, Survey of U.S. Manufacturing Executives (September 2014).

Minerals Production Act, which offers proactive solutions to fix the U.S. permitting process. The legislation carefully addresses the deficiencies of the outdated U.S. permitting system without changing environmental and other protections afforded by current laws and regulations. The bill provides for efficient, timely and thorough permit reviews and incorporates best practices for coordination between state and federal agencies.

We also appreciated the efforts by Chairman Murkowski last Congress to move forward the American Security Minerals Act. Her legislation, cosponsored by many on this committee, was a step forward in bringing the US in line with its global peers who are preparing to meet the 21st century challenges of mineral supply chain reliability and security.

I would like to conclude by reemphasizing the important role the mining industry has in supporting US manufacturing and infrastructure development, but to also acknowledge that Rio Tinto understands responsibility extends far beyond. We must lead by example when it comes to community engagement, reclamation and pioneering technology innovation.

For example, on Lake Chelan in north-central Washington State we have been working to rehabilitate the old Holden copper mine, which we obtained through a larger acquisition in 2008. Despite never commercially benefiting from the mine, Rio Tinto has brought its global expertise to the project and has spent hundreds of millions of dollars to rehabilitate Holden Village, which now serves as a spiritual retreat and community center.

We also have our eye towards the future and we are pursuing ways of improving America's mineral footprint to boost resource innovation. At Rio Tinto's Garfield copper smelter in Utah, we are partnering with the U.S. Department of Energy's Critical Materials Institute (CMI) to find new ways to fully recover and recycle the minerals that future technologies will require. This means not just looking at more efficient ways to process and extract minerals from the ground, but also "urban mining" of electronic waste. One of the most concentrated sources of valuable metals is in old phones and electronics sent off to scrap. To address this waste of resources, we are testing technology that could help capture the valuable minerals in electronic waste in the copper smelting process – including copper's critical and strategic co-products, like rhenium and even rare earths, materials used in alternative energy and fighter aircraft, in smart phones and smart bombs. While clearly accelerating demand cannot be fully met by increasing recycling or substitution, we believe recycling is an important component of our corporate sustainability efforts.

Thank you for the opportunity to testify today. I appreciate the committee's leadership on this very important issue.