

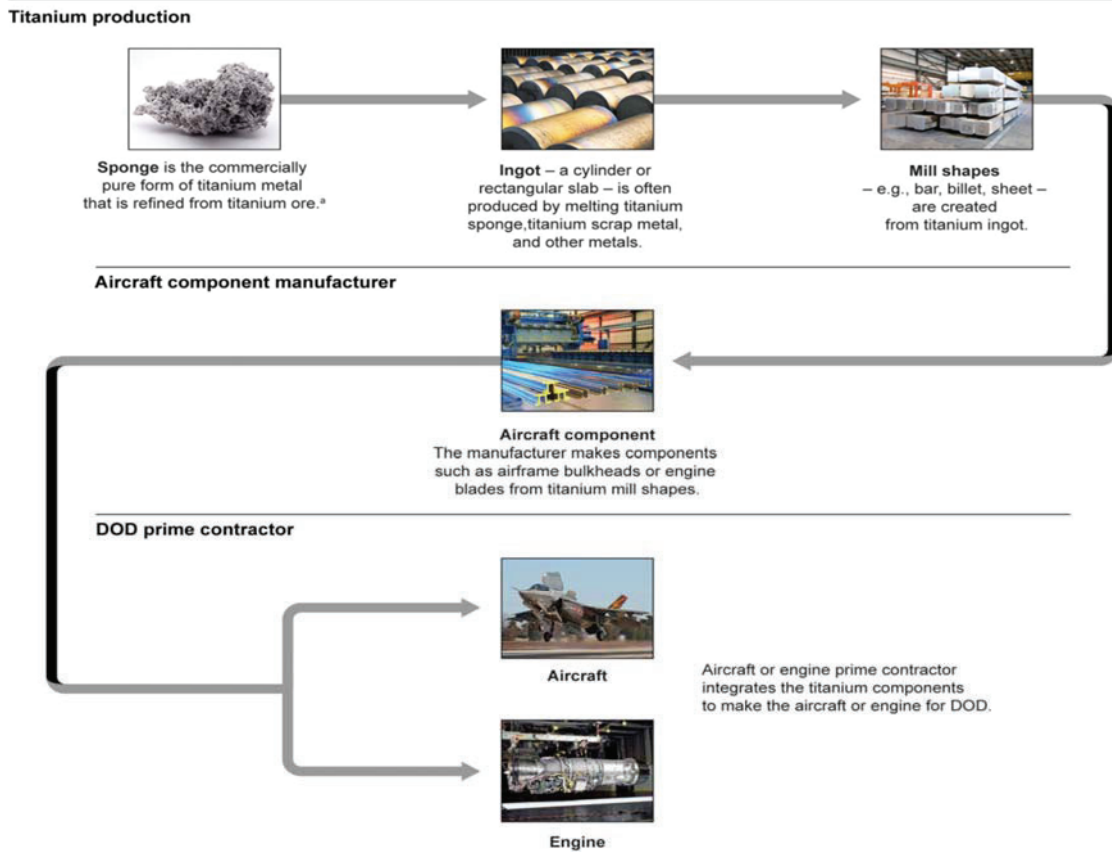
**Before the
UNITED STATES DEPARTMENT OF COMMERCE**

**PETITION OF TITANIUM METALS CORPORATION
UNDER SECTION 232 OF THE TRADE EXPANSION ACT OF 1962
FOR RELIEF FROM IMPORTS OF TITANIUM SPONGE THAT
THREATEN NATIONAL SECURITY**

Dated: September 27, 2018

I. Executive Summary

The United States is in danger of losing its capability to produce a key strategic raw material: Titanium Sponge. Access to a secure supply of premium quality titanium sponge is required to support advanced weapons systems critical to national security and is part of the critical infrastructure that supports the civilian commercial aerospace industry. Military and commercial aircraft, the engines which propel these aircraft, helicopters, missiles, naval vessels, satellites, artillery, tanks and munitions all depend on critical components made from titanium sponge.



Source: GAO analysis of DOD and industry data (data), Lockheed Martin (aircraft image), Pratt & Whitney (engine image), RTI International Metals, Inc. (aircraft component and mill shapes images), and TIMET (sponge and ingot images).

¹ Source: Government Accountability Office, Factors Affecting U.S. Titanium Aircraft Component Manufacturers' Market Share of DOD Business, GAO-13-539 (July 2013) at Fig. 2. (See Exhibit 1).

Without a change to the current unsustainable economics afflicting the domestic titanium sponge industry, America's access to a secure supply of titanium sponge is at risk. One of two domestic titanium sponge plants ceased production in 2016. The last remaining domestic titanium sponge plant is Titanium Metal Corporation's ("TIMET") facility in Henderson, NV. Portions of the Henderson plant are approaching the end of their useful lives. As a result, the plant cannot continue operating without substantial near-term capital investments - investments that cannot be justified in a market distorted by a flood of low-priced imports. Closure of the Henderson plant would leave the U.S. defense and aerospace industries dependent on unreliable foreign sources for titanium sponge and could lead to dependence on Russia and China for this critical raw material.

Unrestrained Imports Will Eliminate the U.S. Titanium Sponge Industry

TIMET is an integrated producer of titanium metal products. TIMET, and all global producers of titanium sponge, use the Kroll Process to convert titanium ore into titanium sponge.

Titanium sponge is melted, usually in combination with scrap and alloying elements, to form ingots and slabs of titanium metal. The ingots and slabs are further processed by TIMET and other mills to produce titanium mill products such as plates, sheet, tubes, bars, *etc.*, that are sold on the commercial market. Titanium mill products are used to produce titanium parts, principally for the defense and aerospace industries.

TIMET generally consumes all of the titanium sponge it produces, and supplements its own production by purchasing imported titanium sponge as needed. ***All of TIMET's U.S.***

competitors produce titanium mill products exclusively from low-priced imported titanium sponge.

TIMET's Henderson, Nevada plant is the last active producer of titanium sponge in the United States. In order to keep Henderson operating, TIMET will be required to make a substantial near-term investment in its sponge making facilities. However, this re-investment in Henderson is not economically justifiable given the availability of imported titanium sponge at current low prices. If TIMET's Henderson Plant closes, the United States will immediately become 100% dependent on titanium sponge from foreign suppliers located in geographically remote and/or geopolitically risky countries, *i.e.*, Japan, Kazakhstan, Russia, China and Ukraine.

In August 2017, TIMET filed an antidumping ("AD") and countervailing duty ("CVD") petition against titanium sponge imported from Japan and Kazakhstan, initially alleging dumping margins of 31% to 69%, and requesting the imposition of countervailing duties against imports from Kazakhstan to offset unlawful government subsidies. After a detailed review of TIMET's filing, the Department of Commerce (DOC) recommended revisions that resulted in even higher dumping margins: 69.7%-95.2% for Japan, and 42.2% for Kazakhstan. DOC also found credible evidence of unlawful subsidies provided by the Government of Kazakhstan.

The AD and CVD investigations were terminated on October 5, 2017, when the United States International Trade Commission (ITC) issued a negative injury determination based on its finding that TIMET's captive production of titanium sponge does not compete directly with imported titanium sponge sold on the commercial market. According to the ITC, the fact that TIMET might be forced to substitute imports for its own domestic production of titanium sponge in order to remain competitive with import-reliant titanium mill product producers was not

pertinent to the ITC's injury analysis. TIMET strongly disagrees with this rationale.

Nevertheless, as a result of the ITC's determination not to grant relief under the AD and CVD laws, TIMET's operation and continued investment in its domestic titanium sponge plant is economically unjustifiable under current conditions.

TIMET's strong preference is to restore economic rationality to domestic production of titanium sponge rather than make TIMET and the United States totally dependent on potentially unreliable foreign sources for titanium sponge.

Titanium Sponge Production Is a Critical Bottleneck in the Defense Supply Chain

On December 20, 2017, the President of the United States issued Executive Order 13817, finding that the United States' dependency on foreign sources for critical minerals creates a strategic vulnerability, exposing the economy and military of the United States to adverse foreign government action, natural disaster, and other events that could disrupt supply of key minerals. The Presidential order further directed the Secretary of the Interior to compile a list of such critical minerals and develop a strategy for reducing the United States' dependency on foreign sources for such materials. On February 16, 2018, the United States Department of the Interior, United States Geological Survey ("USGS"), issued notice of its Draft List of Critical Minerals.² The List of Critical Materials was made final in a notice published on May 18, 2018, 83 Fed. Reg. 23295. Titanium ore was included on the List of Critical Materials due to its use in critical applications in the defense, civilian aerospace and energy industries.

² See Exhibit 2, Draft Critical Mineral List—Summary of Methodology and Background Information—U.S. Geological Survey Technical Input Document in Response to Secretarial Order No. 3359.

Efforts to correct America's acknowledged dependence on foreign sources for titanium ore will, of course, be pointless if TIMET is forced to close the last plant in the United States capable of extracting titanium metal from titanium ore.

TIMET's Henderson Plant, with the capacity to produce approximately 13,000 metric tons (MT) of titanium sponge per year, is capable of supplying 100% of current U.S. military requirements, estimated by TIMET to be 4000-5000 MT per year. Without TIMET's Henderson Plant, the U.S. military will be 100% reliant upon titanium sponge from geographically and/or geopolitically risky countries, namely Japan, Kazakhstan, Russia, China and Ukraine.

In 2017, an estimated 80% of titanium metal consumed in the United States was used in aerospace applications; the remaining 20% was used in armor, chemical processing, marine hardware, medical implants, power generation, and consumer and other applications.³ U.S. sponge consumption was 26,600 MT in 2013. In 2017, U.S. titanium sponge consumption has grown to 37,000 MT, an increase of nearly 40% in only four years' time.⁴ Despite this strong growth in consumption, U.S. titanium sponge production is collapsing. Allegheny Technologies Inc. ("ATI") suspended production of titanium sponge at its 11,000 MT Rowley, Utah plant in 2016.

The current economic threat to domestic titanium sponge production is a critical vulnerability in America's titanium supply chain. Without the capacity to convert titanium ore to titanium metal, the United States defense, civilian aerospace and energy industries will become totally dependent for titanium metal on the handful of foreign countries that retain the capacity to produce titanium sponge.

³ USGS Mineral Commodity Survey 2018 at 174. See Exhibit 3.

⁴ *Id.*

Other than TIMET, significant global sponge producers are: PSC VSMPO-Avisma Corporation (“VSMPO”) in Russia; Ust-Kamenogorsk Titanium and Magnesium Plant JSC (“UKTMP”) in Kazakhstan; and Zaporozhye Titanium & Magnesium Combine (“ZTMC”) in Ukraine. Japan has two titanium sponge producers: Toho Titanium Company, Ltd. (“TOHO”) and Osaka Titanium Company (“OTC”). China has a mix of 8-10 state-owned and independent companies, the largest being the state-controlled firm Baoji Titanium Industry Co., Ltd. (“BAOTI”). Only TIMET, VSMPO, TOHO and OTC are universally certified to produce premium grade titanium sponge for rotating parts.

Among these countries, only Japan can fairly be called a reliable political ally. But, titanium sponge production in Japan is economically vulnerable because its free-market producers are subject to the same economic forces as TIMET. Losses incurred by OTC and TOHO over the past few years indicate that the current economic conditions afflicting the titanium sponge market will discourage them from making the capital investments needed to remain reliable suppliers of titanium sponge. These developments could eventually leave the United States dependent on Russia, China, Ukraine and Kazakhstan for titanium sponge.

Making the United States dependent on Russia, China, Kazakhstan and Ukraine for a critical element like titanium metal will increase the risk that those governments will use titanium as a political bargaining chip, in the manner that Russia has exploited Western Europe’s dependence on Russia for natural gas.

All of the world’s foreign titanium sponge producers (including Japan) are geographically remote from the United States, making the titanium supply chain vulnerable to disruption from both political turmoil and natural disasters. Finally, in the event of military

hostilities, none of these remote foreign producers can be counted on to maintain shipments of titanium sponge to the United States. Russia, China, Ukraine and Kazakhstan are unlikely to support the United States in any military action. Japan, despite its political reliability, is particularly vulnerable to disruptions caused by an armed conflict. Japan sits across a narrow sea from China, North Korea and Russia.



In its 2017 report on the North Korean Nuclear Challenge, the Congressional Research Service (“CRS”) observed that “any move involving military forces by either the United States/Republic of Korea (U.S./ROK) or the DPRK might provoke an escalation of conflict that could have catastrophic consequences for the Korean Peninsula, Japan, and the East Asia region.”⁶

⁵ CRS: The U.S.-Japan Alliance (2016) at Fig. 1. See Exhibit 4.

⁶ CRS: The North Korean Nuclear Challenge: Military Options and Issues for Congress (November 6, 2017), Summary. See Exhibit 5.

A significant disruption in deliveries of titanium sponge for any reason would quickly have major economic consequences for the United States defense, aerospace and energy industries. The Defense Logistics Agency (“DLA”) sold off the last remnants of its strategic stockpile of titanium sponge in 2005.⁷ Under just-in-time delivery practices currently prevailing among U.S. titanium sponge consumers, the United States will exhaust its on-hand supplies of titanium sponge within 90 to 120 days after new shipments from foreign suppliers are stopped for any reason.

America’s reliance on foreign suppliers for titanium sponge is even more tenuous with respect to titanium sponge that is certified for use in the most demanding applications, *i.e.*, rotating parts for jet engines and some critical aerospace structural applications. Among current titanium sponge producers, only TIMET, Russia’s VSMPO and the Japanese producers, OTC and TOHO, are universally certified for the production of titanium sponge used in rotating parts for jet engines. If TIMET’s Henderson plant closes, and imports of rotating quality titanium sponge are disrupted for any reason, it will take at least several years to restart a U.S. sponge plant and achieve the necessary production standards to certify its output for use in rotating parts for jet engines for military and/or civilian use.

An Economic Solution for the Strategic Threat to America’s Titanium Supply Chain

At the end of 2016, ATI closed a newly-built titanium sponge production facility in Rowley, Utah, because imports were available for at least a five-year period at a delivered, duty-paid price that was more than 15% below ATI’s variable cost to produce titanium sponge in its

⁷ The shortcomings of stockpiling as a solution to potential shortages of titanium sponge are discussed *infra*.

Rowley, UT facility.⁸ As a result of the Rowley closure, ATI incurred charges of roughly half a billion dollars.⁹ ATI closed its Rowley plant because it could not justify a \$150 million investment in chlorination and/or titanium tetrachloride production to create a closed-loop production process like that at TIMET’s Henderson sponge plant.¹⁰ Instead, ATI chose “to pursue idling Rowley due to the availability of long-term supply commitments at globally competitive prices... .”¹¹

Imports of titanium sponge have continued to surge as prices for imported titanium sponge have declined. Volume and pricing trends on sponge imported from Japan into the U.S. over the past five years illustrate the problem.¹²

Titanium Sponge (HTS: 8108.20.0010) Imports from Japan (2013-2017)					
Japan	2013	2014	2015	2016	2017
Quantity (kg)	13,414,795	13,320,789	15,487,583	15,848,926	19,169,243
% of reported total imports (kg)	70%	78%	86%	98%	89%
Value (CIF, USD)	168,674,383	157,902,666	164,642,273	147,921,118	179,573,370
AUV (USD/kg)	12.57	11.85	10.63	9.33	9.37

Source: ITC Dataweb

⁸ See Exhibit 7, Complaint in *US Magnesium, LLC v. ATI Titanium, LLC, et al.*, Case No. 2:16-CV-1158 TS (US District Court for the District of Utah) at ¶¶ 15-22 and Exhibit A to the Complaint, “Supply and Operating Agreement” at § 11.2.

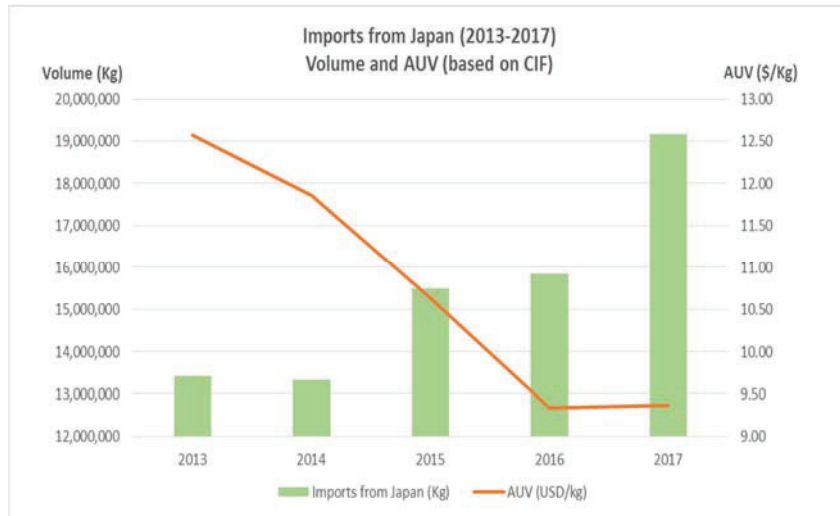
⁹ See United States Securities Exchange Commission, Allegheny Technologies Incorporated, Form 8-K (August 24, 2016.).

¹⁰ *Titanium Sponge from Japan and Kazakhstan*, Inv. Nos. 701-TA-587, 731-TA-1385-1386 (Preliminary), Staff Conference Transcript at 147-148, 180.

https://www.usitc.gov/trade_remedy/731_ad_701_cvd/investigations/2017/Titanium%20Sponge%20from%20Japan%20and%20Kazakhstan/Preliminary/titanium_sponge_from_japan_and_kazakhstan-conference-09-14-2017.pdf

¹¹ *Id.*, Staff Conference Transcript at 110.

¹² We have used imports from Japan, which represent the majority of imported sponge into the US. We excluded Kazakhstan from the data because import quantities from that country were not available from the ITC’s database.



During the past five years, Japan and Kazakhstan accounted for 70% to 98% of imports into the U.S. The price from Japan has declined by more than 26% from 2013 to 2017. Imports from Kazakhstan are also increasing considerably as a result of the ATI Rowley closure.

TIMET, as the last American titanium sponge producer, is subject to the same extraordinary financial pressure from unfairly priced imports that led to the idling of ATI’s Rowley plant. TIMET is facing a painful “make/buy” decision forced upon it in a market distorted by a surge in low-priced imports of titanium sponge.

TIMET believes America’s titanium sponge industry can be put on sound economic footing again by restoring prices for titanium sponge to 2013 levels, which were about 30% above current levels. Those price levels allowed TIMET and ATI, as well as Japanese producers, to operate their titanium sponge plants at a sustainable cost that encouraged reinvestment in the titanium sponge industry. A combination of bilateral agreements, tariffs and quotas can achieve sustainable economics.

TIMET estimates that raising current price levels by at least 30% would increase the current costs for imported titanium sponge by an aggregate of approximately \$64 million annually. According to a 2017 report generated by the Aerospace Industries Association, the United States aerospace and defense sector, which requires a reliable source of titanium metal to maintain their operations, generates \$872 billion in annual sales in the United States.¹³ Thus, the cost of maintaining a secure domestic source for titanium metal would amount to only 0.007% of total aerospace and defense sales in the United States. Such a minimal increase in titanium costs is a small price to pay to insure that the United States aerospace and defense sector will always have reliable access to titanium metal in times of natural, political and/or military disruptions affecting the titanium supply chain.

Importantly, the restoration of stable economic conditions in the titanium sponge industry will encourage private parties to reinvest in the titanium sponge industry. In this way, a secure domestic supply chain for titanium sponge will be preserved at minimal cost to the United States aerospace and defense sectors.

¹³ Aerospace Industries Association, 2017 FACTS & FIGURES: U.S. AEROSPACE & DEFENSE at 3. See Exhibit 6.