ASX Release

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ASM'S JV PRODUCES TITANIUM METAL ALLOY WITH 45% POWER SAVING

Highlights:

- **Commercial Pilot Plant Commissioned on Time and on Budget**
- **~30kg of titanium metal alloy was produced during the commissioning of the Commercial Pilot Plant**
- **In the next phase, the alloy will be used to produce high purity (99.9%) titanium metal via the Electro refining process.**
- **The patented method of metal production utilizes 45% less power than current industry methods**

Australian Strategic Materials Limited's (ASM) Korean research and development partner, ZironTech has successfully produced a titanium metal alloy with the patented reduction process at the JV's commercial pilot plant in South Korea.

This is the first phase of the development of a low emission, high purity metal refining technology that can be applied to zirconium, titanium, rare earths for permanent magnet alloys. Typically, in metal production, energy costs accounted between 30 – 40% of total costs. The production of the titanium metal alloy utilising 45% less power indicates significant cost benefits to ASM's integrated business strategy, this will be further optimised as this metallisation program progresses

The commissioning of the electrorefining section of the pilot plant, which will produce ultra-high purity metal, is planned in July 2020. Further pilot plant runs are planned to produce neodymium, praseodymium, and other rare earths in metallic form.

Australian Strategic Materials Managing Director, David Woodall said:

"This is a significant milestone in the development of our integrated business plan that includes clean metal production from the development of the Dubbo Project in Central West NSW. The clean metal technology can be applied to all the products from the Dubbo Project. This has the potential to add significant value to our Australian project, while ensuring supply security and stability of these critical materials to global and domestic Australian manufacturing sectors.

This production of titanium metal alloy from titanium oxide feed is a first step in the ASM strategy of value adding to the output from its polymetallic Dubbo Project, with its large in-ground resource of zirconium, rare earth elements (including yttrium), niobium, and hafnium. ASM's investment in downstream processing will improve the economics of its Dubbo project, as well as ASM leading the worldwide commercialisation of this breakthrough metallising technology."

Contact Information

Contact David Woodall, Managing Director, ASM Ltd, +61 8 9227 5677
Investors Natalie Chapman, Corporate Communications Manager, +61 418 642 556
Media Marcha Van Den Heuvel, Hill+Knowlton Strategies, +61 2 9286 1226 or +61 468 960 457

ASM's JV partner is now progressing the second phase of its metallisation strategy focussing on the production of zirconium metal in July 2020.

As advised to the ASX on 17 June 2020, Alkane is holding an extraordinary general meeting of shareholders to consider demerging ASM and establishing it as a stand-alone, ASX listed company. For further information on the proposed Demerger and EGM please refer to http://www.alkane.com.au/demerger/.

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This announcement is authorised for release by the Board of Alkane Resources Limited.

About Australian Strategic Materials – www.asm-au.com

Established as the holding company for the Dubbo Project, ASM is focused on producing specialty metals and oxides for advanced technologies. ASM is a wholly-owned subsidiary of Alkane Resources Ltd.

Located in central-western NSW, ASM's cornerstone Dubbo Project has a long-term resource of zirconium, rare earths, niobium and hafnium– a globally significant source of these critical materials for a diverse range of emerging and sustainable technologies.

In a joint venture with South Korea's Zirconium Technology Corporation (ZironTech), ASM is advancing oxide separation and metallisation technologies to create a range of value-added materials from the Dubbo Project. ASM's pilot plant is in the final stage of construction in South Korea and production will commence in mid-2020.