



ASX RELEASE

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METALLICA COMPLETES SCANDIUM RECOVERY TEST PROGRAM – STAGE ONE

Australian resource development company Metallica Minerals Limited (**ASX: MLM**), is pleased to announce the successful completion of the first phase of its pilot metallurgical test program, focussed on extracting scandium from its high-grade NORNICO scandium ore.

One of the more valuable of the 17 rare earth elements, scandium occurs at very high levels in the shallow Lucknow and Kokomo nickel-cobalt deposits within Metallica's 100% owned NORNICO nickel-cobalt & scandium project, located 2.5 hours drive northwest of Townsville, North Queensland.

A large sample of representative high grade scandium ore sourced from the Lucknow deposit was sent to SGS Lakefield Oretest (Perth, Western Australia). This scandium-rich ore was processed through a High Pressure Acid leach (HPAL) pilot plant for a continuous 10-day period. In total, 4,400kg of scandium ore at an average feedgrade of 276g/t Sc (scandium), 0.36% Ni (nickel), and 0.07% Co (cobalt) was leached using the proven HPAL processing method over the campaign. Scandium extraction of 85% was achieved, contained in approximately 15,000 litres of pregnant leach solution (PLS).



SGS Lakefield Oretest Perth – HPAL Pilot Plant

The next step for Metallica is to treat the PLS in a purpose-built solvent extraction (SX) and purification pilot plant in Brisbane. From this process, Metallica expects to produce approximately 1 kilogram of high purity scandium oxide (Sc_2O_3) by June 2012. The production of this first scandium oxide product is expected to demonstrate that Metallica has the appropriate process flowsheet to efficiently produce high-purity (targeting 99.9% or better Sc_2O_3) scandium product



from NORNICO scandium ores. This scandium oxide product will be available for evaluation by scandium customers and potential Joint Venture participants.

Metallica CEO Gavin Becker said the results confirmed previous HPAL bench-scale testwork on the company's scandium-rich laterite ores and we are very fortunate to be able to extract high levels of all 3 target metals (Sc-Ni-Co) using the HPAL process.

"It allows us to proceed to the second stage of scandium recovery in Brisbane and prove that scandium solvent extraction and a purification process will provide high purity Sc oxide," Mr Becker said.

"A successful outcome here in the next few months should allow us to demonstrate how we can confidently produce high purity scandium oxide from our NORNICO ores as a major step towards Metallica's goal of becoming the world's first major long-term reliable scandium producer," he said.

Metallurgical Testwork

The high grade scandium ore was processed through the HPAL autoclave at 255 °C. Initial retention time was 60 minutes and the initial acid dosage was around 400 kg/t ore. Nickel and cobalt extraction was consistently around 95%, however the initial scandium extraction was somewhat lower whilst leaching conditions were being optimised. Following a reduction in acid dosage after 3-4 days there was an improvement in scandium extraction to over 80%. Further reduction in acid dosage later in the program, to around 300 kg acid/t ore, was followed by another increase in scandium extraction up to 85%.

These preliminary pilot testwork results require confirmation by more rigorous metallurgical balancing, however the following conclusions can be drawn with respect to leaching of representative high scandium grade Lucknow ore (267 g/t Sc, 0.36% Ni, 0.07% Co):-

- At 255°C, 60 minutes appears to be sufficient to extract 95% of Ni and Co and 85% of Sc.
- Increased retention had no obvious impact on metal extraction, but may improve precipitation of Fe and Al (and hence minimise acid consumption).
- For this scandium ore, an acid dosage of 300-320 kg/t appears to be adequate for target metal extraction and results in around 3 g/L Al and 1 g/L Fe in leachate, which is very manageable in the downstream process for nickel, cobalt and scandium recovery.

About Metallica Minerals Ltd (ASX code: 'MLM'): Metallica Minerals is an Australian resource development company with major project interests in Nickel-Cobalt & Scandium and Zircon-Rutile.

Since its ASX listing in November 2004, Metallica Minerals has maintained a core focus on the sustained development of its flagship NORNICO nickel-cobalt-scandium project in North Queensland, while expanding its business through a complementary series of strategic resource project acquisitions, non-core asset sales, divestments that have become listed investments, corporate alliances, and cutting-edge technological advances.



About Scandium (Sc)

Scandium (Element 21) is most commonly considered one of the 17 rare earth elements and one of the most valuable. Although scandium is widely distributed in the Earth's crust in trace amounts, it is very rarely enriched or concentrated to exploitable levels and therefore high grade large tonnage mineable scandium deposits are scarce. Scandium shares similar properties to other more abundant and commonly used strategic tech metals such as titanium, zircon and yttrium.

Scandium has unique properties that will enhance our technological future. The applications of scandium are increasing because of its specific mechanical and chemical properties over other metals, and hence there is a growing market demand.

Scandium is a powerful grain refining element for aluminium and therefore is the most potent strengthening element that can be alloyed with aluminium. The properties of Sc-strengthened aluminium alloys (Al-Sc) and Scandia or Scandium oxide (Sc_2O_3) stabilized Zirconia (ZrO_2) materials are particularly promising. The Al-Sc alloys (e.g. 0.5% Wt) have a number of superior properties including light weight, high strength, superior weldability, good thermal resistance, corrosion resistance and long durability. The principal current applications of the Al-Sc alloys to date are for high quality sporting equipment and military demand. For example, scandium aluminium alloys are applied in premium bicycle frames, golf clubs and in fighter planes and missiles. Such enhanced aluminium alloys were first developed and used by the USSR for MIG fighter aircraft and missile structural components in the 70's and 80's.

Scandium bearing aluminium super alloys have the highest strength-to-weight ratio of any material used in sports today and have potential to replace titanium, graphite/epoxy and steel. Scandium has significant exposure to mega categories of uses in aluminium alloys such as automotive, marine and aerospace transportation, electrical gadget casings (e.g. mobile phones, laptops), plus efficient energy generation (e.g. SOFC) and lighting.

Scandium can be used to make solid oxide fuel cells (SOFC's) significantly more efficient. Scandia-stabilised zirconia has extremely high oxygen-ion conductivity for use as a high efficiency electrolyte in solid oxide fuel cells. This will be increasingly important with the worldwide massive expansion of natural gas usage and gas distribution infrastructure. Natural gas and fuel cells are the future, and Metallica believes scandium is going to be part of that future by getting the most amount of electrical and thermal energy from the least amount of fuel – efficient cleaner energy supply is the gateway to a more sustainable society.

Also, scandium bearing metal halide lighting can produce white light with a colour balance that resembles natural sunlight, therefore providing a better visual light, with higher lumens and energy savings.

World scandium usage is currently small (estimated at 5 to 10tpa), its use and market growth has therefore been severely restricted by scandium's scarcity and lack of reliable supply. At present there is no scandium ore mining or primary scandium supply. It is being sourced solely from remnant former Soviet era stockpiles and in small quantities as a by-product from some other strategic metal processing. Scandium oxide prices are currently over US\$1,500 per kilogram for high purity scandium oxide (~99.9% Sc_2O_3).



Worldwide, high grade (>70g/t Sc) bulk mineable scandium deposits are very rare and Metallica has been fortunate in defining two large high grade scandium resources (Lucknow and Kokomo), associated with Ni-Co resources, to substantially support its NORNICO Tri-metal Ni-Co-Sc project and therefore maximise revenue. Metallica therefore has the potential to be the major world supplier of scandium. Having three metals is a much better proposition for project development than a situation of just a stand-alone scandium or nickel-cobalt laterite project.

It is envisaged that once a long term reliable supply of significant quantities of scandium (say >40,000kg pa Sc_2O_3) becomes available for the first time, the market for scandium is expected to grow substantially.

Metallica's objective is to become the world's major and most reliable supplier of high purity scandium oxide.

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