## ASX Release

**16 October 2012**

# SCONI PROJECT

## REVISED SCOPING STUDY

## INCREASED SCANDIUM PRODUCTION

**HIGHLIGHTS:**

- **Heads of Agreement (HOA) for binding scandium oxide offtake with Bloom Energy, and non-binding Memorandum of Understanding (MOU) for a Strategic Alliance with KBM Affilips has increased confidence in Metallica's estimates for future scandium demand**
- **Increased scandium oxide targeted production at SCONI from easily accessed scandium resources results in potentially greater profitability and net present value (NPV) (based on Scoping Study assumptions)**

Australian resource development company, Metallica Minerals Limited (**ASX: MLM**), is pleased to announce a revision to its Scoping Study for the SCONI scandium-cobalt-nickel project completed in July 2012 (see ASX announcement 4 July 2012).

The original Scoping Study, which considered a 750,000 tonnes per annum (tpa) sized processing plant, assumed scandium oxide production starting at a level of 40tpa, growing to 100tpa over a 20 year mine life. The average scandium oxide production across the 20 years was 68tpa.

Based on ongoing discussions with potential scandium oxide end users, including the binding HOA for scandium oxide offtake with solid oxide fuel cell (SOFC) manufacturer Bloom Energy (see ASX announcement 2 October 2012) and the MOU for a Strategic Alliance with master alloy producer KBM Affilips (see ASX announcement 3 October 2012), Metallica has revised its potential estimates for future scandium oxide demand from SCONI.

Metallica believes there may be sufficient demand to allow the sale of approximately 90tpa of scandium oxide from the SCONI project. Scandium oxide production levels of this magnitude fit within the processing plant design criteria considered in the Scoping Study.

Metallica's mining consultant IMC Mining Group has developed a revised and optimised mining and stockpiling plan for the SCONI project to facilitate the increased level of scandium oxide production. Under the updated mine plan, there are sufficient Measured, Indicated & Inferred Mineral Resources (see **Appendix I**) at the SCONI project to allow production of approximately 90 tonnes of scandium oxide per annum over not less than 20 years based on a processing rate of 750,000tpa of ore.*

Adopting the same assumptions per the original Scoping Study (July 2012), the revised financial outputs from the updated Scoping Study are detailed in **Appendix 1** below. The revised mining plan, designed to increase the scandium oxide production level, results in an increased pre-tax NPV of A$870M for the SCONI project (up from A$402M) and increased average annual operating margin of A$213M (up from A$179M).

***Please refer to **Appendix I** for the JORC Resource Statement for the SCONI Southern Deposits considered in the Scoping Study. Although the majority of the JORC Resources in the Southern Deposits is classified as Measured & Indicated, the updated mine plan discussed above does consider the mining of some Inferred Resources. It must be noted that there is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target of 90 tonnes of scandium oxide per annum itself will be realised.

Managing Director Andrew Gillies said,

"Metallica remains focussed on becoming a significant nickel producer and the world's first major, long-term and reliable producer of scandium. This is a highly strategic opportunity for the company and our arrangements with Bloom Energy and KBM Affilips demonstrate the potential future demand for high purity scandium oxide."

**Table 1: Scoping Study Assumptions & Outputs**

| Description | Assumption / Output (Scoping Study 4 July 2012) | Assumption / Output Revised Scoping Study |
|---|---|---|
| **Processing Plant Throughput** | 750,000tpa (with a 2 year ramp up period to full capacity) | 750,000tpa (with a 2 year ramp up period to full capacity) |
| **Average Feed Grade (over 20 years)**** | ~15Mt @ 0.81% Nickel, 0.11% Cobalt, 73g/t Scandium (109g/t Scandium Oxide) | ~15Mt @ 0.69% Nickel, 0.10% Cobalt, 99g/t Scandium (149g/t Scandium Oxide) |
| **Operational Life** | 20 years | 20 years |
| **Average Metal Recoveries** | 90% Nickel, 90% Cobalt, 85% Scandium | 90% Nickel, 90% Cobalt, 85% Scandium |
| **Average Annual Production** | 5,250t Nickel, 700t Cobalt, 68,000kg Scandium Oxide | 4,464t Nickel, 675t Cobalt, 93,000kg Scandium Oxide |
| **Long Term Average Metal Price Assumptions** | US$10.00/lb Nickel, US$15.00/lb Cobalt, US$2,000/kg Scandium Oxide | US$10.00/lb Nickel, US$15.00/lb Cobalt, US$2,000/kg Scandium Oxide |
| **Exchange Rate AUD:USD** | 0.90 | 0.90 |
| **Capital Expenditure (ex. contingency)** | A$597M | A$597M |
| **Capital Contingency** | +20% | +20% |
| **Average Annual Operating Expenditure** | A$138M | A$138M |
| **Net Present Value** | A$402 million (pre-tax, 100% equity, 10% discount rate, real terms) | A$870 million (pre-tax, 100% equity, 10% discount rate, real terms) |
| **Internal Rate of Return** | **16.7% (pre-tax)** | **23.1% (pre-tax)** |
| **Average Annual Operating Margin** | **A$179 million** | **A$213 million** |

**Assumes no beneficiation or mill feed upgrading

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SCONI

Scandium ◆ Cobalt ◆ Nickel

***Scandium***

*Scandium (Element 21 of the periodic table) is considered one of the 17 rare earth elements (REE) and one of the most useful and valuable. High-grade, large tonnage, easily mineable scandium deposits with favourable metallurgy and location are scarce, making it a commodity that is difficult to obtain in commercial quantities.*

*Scandium has unique properties that can enhance the world's technological future. Scandium is one of the most potent strengthening elements that can be alloyed with aluminium to create stronger master alloys with applications in aerospace, transport and high performance sporting equipment.*

*Scandium is also used in the production of the most efficient solid oxide fuel cells (SOFC's). As the western world transitions towards green energy, SOFC's will become more widely used, providing clean and efficient energy that is driven by natural gas.*

*The importance of scandium to the world market cannot be overestimated, especially with the massive worldwide 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 a part of that future by getting the most amount of electrical and thermal energy from the least amount of fuel – where efficient cleaner energy is the gateway to a more sustainable society.*

*The use of scandium has been limited by its scarcity and lack of reliable supply. The current total world supply of scandium is estimated to be around ten tonnes of scandium oxide per annum, all of which is sourced as a by-product from other strategic metal processing.*

*High purity scandium oxide currently sells at prices in the range of US$3,000-8,000/kg depending on product quantity and purity.*

*To learn more about scandium, see Metallica's March 2012 Quarterly Report* ***(Pages 18 & 19)*** *and the 3 page summary -* ***A New "Spice" Metal to Enhance Industry & Life"*** *on the Metallica website.*

**Appendix I:**

**Southern Deposits JORC Resource Statement (cut-off grade NiEq > 0.7%)**

| Description | Tonnes (Mt) | Ni (%) | Co (%) | Sc (g/t) | Ni Metal (kt) | Co Metal (kt) | Sc Metal (t) | Equivalent Sc Oxide (t) |
|---|---|---|---|---|---|---|---|---|
| **Kokomo** | | | | | | | | |
| Measured | 2.2 | 0.57 | 0.11 | 80 | 12.2 | 2.5 | 173 | 260 |
| Indicated | 17.2 | 0.56 | 0.09 | 49 | 95.8 | 15.5 | 843 | 1,264 |
| Inferred | 10.2 | 0.36 | 0.04 | 59 | 36.7 | 4.5 | 603 | 905 |
| **Totals** | **29.5** | **0.49** | **0.08** | **55** | **144.7** | **22.5** | **1,619** | **2,429** |
| **Greenvale** | | | | | | | | |
| Measured | 4.8 | 0.78 | 0.06 | 38 | 37.8 | 3.0 | 186 | 279 |
| Indicated | 9.5 | 0.71 | 0.05 | 38 | 67.0 | 4.9 | 360 | 541 |
| Inferred | 1.9 | 0.71 | 0.05 | 34 | 13.3 | 0.9 | 65 | 97 |
| **Totals** | **16.2** | **0.73** | **0.05** | **38** | **118.1** | **8.8** | **611** | **917** |
| **Lucknow** | | | | | | | | |
| Measured | 1.7 | 0.45 | 0.10 | 103 | 7.9 | 1.8 | 180 | 271 |
| Indicated | 10.6 | 0.27 | 0.07 | 128 | 28.5 | 7.2 | 1,357 | 2,035 |
| Inferred | 1.5 | 0.40 | 0.07 | 41 | 5.8 | 1.0 | 60 | 90 |
| **Totals** | **13.8** | **0.31** | **0.07** | **116** | **42.2** | **10.0** | **1,597** | **2,396** |
| **Combined Southern Deposits** | | | | | | | | |
| Measured | 8.7 | 0.66 | 0.08 | 62 | 57.9 | 7.2 | 539 | 809 |
| Indicated | 37.3 | 0.51 | 0.07 | 69 | 191.3 | 27.6 | 2,560 | 3,840 |
| Inferred | 13.5 | 0.41 | 0.05 | 54 | 55.9 | 6.4 | 728 | 1,092 |
| **Totals** | **59.5** | **0.51** | **0.07** | **64** | **305.1** | **41.1** | **3,827** | **5,741** |

Notes to Resource Statement

1. Scandium is typically sold as an oxide product. Hence the equivalent scandium oxide has been calculated at 1.5 times contained scandium.

2. The resources for the Southern Deposits of Lucknow, Greenvale and Kokomo are reported at a cut-off grade (COG) of NiEq 0.7% (Ni + 1.5Co + 0.01Sc). This NiEq COG formula has been calculated using commodity prices of US$10/lb nickel, US$15/lb cobalt and US$1,500/kg scandium oxide, and recoveries of 90% for all three metals.

3. Metallica believes that the metallurgical test work to date provides reasonable potential for the nickel, cobalt and scandium to be recovered at similar recoveries to those achieved in the test work

4. Variations in total may be present due to rounding factors.

5. Additional Nickel laterite resources in the Northern Deposits of Bell Creek South, Bell Creek North, Bell Creek Northwest, Minnamoolka and The Neck do not have estimate Sc grade and are not reported here.

***Competent Person's Statement***

*The **SCONI Scandium-Cobalt-Nickel project Mineral Resource estimate(s)** is based upon & accurately reflects data compiled, validated or supervised by Mr John Horton, Principal Geologist FAusIMM (CP) who is a full time employee of Golder Associates Pty Ltd. Mr Horton has sufficient experience that is relevant to the style of mineralisation and the type of deposit under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the 2004 edition of the 'Australasian Code for the Reporting of Exploration Results, Mineral Resources & Ore Reserves'. Mr. Horton consents to the inclusion of this information in the form and context in which it appears in this document.*