

ASX RELEASE

13 November 2013

Barrambie Scoping Study Results

HIGHLIGHTS

- **Scoping Study indicates potential economic viability of recovering pure TiO₂**
- **Potential lowest quartile operating cost of A\$1,214/t of 99.9% pure TiO₂**

Reed Resources Ltd (ASX: RDR) ("Reed") is pleased to release the results of its Scoping Study on its Barrambie Titanium Project. This initial economic assessment by Snowden Mining Industry Consultants (Snowden) indicates potential for a viable hard-rock titanium and vanadium mining and processing operation and recommends progression to a Pre-Feasibility Study.

The highlights for an initial 50,000tpa throughput module, the subject of the study, are summarised below. Operating and Capital Costs are both valid as at October 2013 with an indicative accuracy in the range of ±35%. All analysis is in A\$ dollars and assumes a selling price of US\$3,000/t for titanium dioxide US\$11,000/t for V₂O₅ and an AUD exchange rate of US\$1.00.

| Scoping Study Highlights | |
|--|--|
| Annual Production | 13,000t TiO ₂ 300t V ₂ O ₅ |
| Life of Mine (LOM) | 27 years |
| Life of Mine (LOM) Revenue | A\$ 1,143 million |
| Pre-tax Cashflow | A\$ 516 million |
| Pre-tax NPV (12% discount rate) | A\$ 87 million |
| Pre-tax Internal Rate of Return | 24% |
| Average Net Operating Cost per tonne of recovered TiO ₂ | A\$ 1,214 |
| Total initial capital costs | A\$ 109 million |
| Payback of capital costs | 4 years |

CAUTIONARY STATEMENT

The Scoping Study referred to in this report is based on low-level technical and economic assessments, and is insufficient to support reporting of Ore Reserves using recognised codes or guidelines or to provide definitive assurance of an economic development case, or to provide certainty that the conclusions of the Scoping Study will be realised.



MINERAL RESOURCE ESTIMATE

The Barrambie Titanium Project contains total Indicated and Inferred Mineral Resources of 47.2Mt at 22.2% TiO₂, 0.63% V₂O₅, and 46.7% Fe₂O₃, at a cut-off grade of 15% TiO₂.

| Category (JORC, 2004) | Tonnage (Mt) | TiO ₂ (%) | V ₂ O ₅ (%) | Fe ₂ O ₃ (%) | Al ₂ O ₃ (%) | SiO ₂ (%) |
|-----------------------|--------------|----------------------|-----------------------------------|------------------------------------|------------------------------------|----------------------|
| Indicated | 34.7 | 22.25 | 0.64 | 46.77 | 9.48 | 14.95 |
| Inferred | 12.5 | 21.99 | 0.58 | 46.51 | 9.32 | 15.40 |
| Total | 47.2 | 22.18 | 0.63 | 46.70 | 9.44 | 15.07 |

All tonnage and grade figures have been rounded down to two or three significant figures, respectively; slight errors may occur due to rounding of values.

DEVELOPMENT SCENARIO

The development scenario for this study is characterised by:

- Plant with a throughput capacity of 50,000 tpa located at Geraldton
- Mining on a campaign basis, using contract mining
- ROM material will be transported over 600 km from the mine site to Geraldton for processing by a contractor haulage fleet
- A new technology based on limited testwork will be used for high recovery of pure TiO₂.

Mining

For this study, material from the Barrambie deposit will be mined using conventional drill and blast with truck and shovel open pit mining methods. Reasonably small scale mining equipment would be used to mine the high grade areas and limit dilution; modifying factors of 4% mining loss and 6% dilution were applied.

Plant feed mined will be placed on a ROM stockpile at the mine and then hauled about 600km to a proposed 50 ktpa processing plant to be constructed near Geraldton.

Processing

The proposed process is based on the description provided in an Aspen simulation report carried out by Arithmetek Inc. (2012).

The process comprises the following steps:

- Primary leach of ROM feed in recycled hydrochloric acid to selectively dissolve up to 99% of the vanadium and <1% of the titanium. Most of the iron is dissolved in this step.
- Recovery of pure vanadium pentoxide (>99.9% pure) via solvent extraction, precipitation of ammonium metavanadate and calcining.
- Secondary leach to dissolve >90% of the titanium. All the remaining iron dissolves in this stage.
- Precipitation of >99% pure titanium dioxide
- Hydrolysis of the combined titanium and iron barren solutions for the precipitation of a pure hematite product (>99% pure) and recovery of the hydrochloric acid for recycle.

Project Infrastructure

Snowden did not review the specific mine site infrastructure requirements as it is proposed that all the processing will take place at a site, yet to be identified, near Geraldton.

A Geraldton processing site would provide access to local infrastructure such as:

- power generation and reticulation
- access roads
- water
- buildings
- port logistics.

PIT INVENTORY

The current study extracts less than 4% of the available resource (by contained TiO₂), with only 1% of the mined tonnes derived from Inferred Resources.

Table 1 Pit inventory, by area

| Parameter | Central North | Central South | South | Total |
|--|----------------------|----------------------|--------------|--------------|
| Rock tonnes (kt) | 2,043 | 1,999 | 1,104 | 5,146 |
| Feed tonnes (kt) | 676 | 407 | 267 | 1,351 |
| Inferred % | 2.6 | 0 | 0.1 | 1.3 |
| Mill feed (years) | 13.5 | 8.1 | 5.3 | 27.0 |
| Strip ratio (w:o) | 2.02 | 3.91 | 3.13 | 2.81 |
| Diluted TiO ₂ (%) | 27.9 | 29.2 | 30.7 | 28.8 |
| Diluted V ₂ O ₅ (%) | 0.66 | 0.69 | 0.74 | 0.68 |
| Diluted Fe ₂ O ₃ (%) | 39.2 | 41.7 | 40.0 | 40.1 |
| Diluted Al ₂ O ₃ (%) | 11.2 | 9.6 | 9.4 | 10.4 |
| Diluted SiO ₂ (%) | 14.9 | 13.2 | 12.6 | 13.9 |

CAPITAL COST ESTIMATE

Mining

Mining will be conducted on a campaign basis by contract miners. Snowden has allowed for \$3 M per campaign for mobilisation and demobilisation combined for each of the three year-long mining campaigns. This is a total of \$9 M for the life of mine.

Processing

Snowden based the capital estimate for the process plant on the capital requirements estimated by two independent engineering groups (Party A and Party B) for installations employing similar processes, although the capacities were different. Snowden applied adjustments to allow for exchange rate differences, the Australian CPI index to allow for inflation and applied the "0.6 rule" to allow for different design capacities.

The Party A estimate was A\$74 M and the Party B estimate A\$113 M. Snowden considers the range to be reasonable and has selected the average of the two (A\$93 M) as the preferred value

Project infrastructure

Infrastructure costs of A\$7 M were allowed for in the economic analysis.

OPERATING COST ESTIMATE

Mining

A contractor mining cost of \$5/t has been assumed based on small scale mining. This will need to be validated against a contractor quote.

Processing

As for the capital cost estimate, Snowden used benchmarks for operating cost estimation, adjusted for exchange rate and inflation. Party A operating costs ranged from A\$150/t feed to A\$225/t feed. Party B calculated the cost as A\$180/t feed. Snowden applied an operating cost of \$200/t feed.

Logistics

In 2012, SKM provided an estimate of \$50/t for haulage of 500 ktpa of concentrate from Barrambie to Geraldton. At a lower rate of 50 ktpa and considering the toll crushing of feed, an assumption of \$100/t was made for logistics.

MARKET AND MARKETING

Assessment of the market by Reed using third party commodity research and current spot prices, led to the US\$3,000/t TiO₂ and US\$11,000/t V₂O₅ price assumptions respectively.

ECONOMIC ANALYSIS

Snowden prepared a simplified discounted cash flow analysis to provide an early indication of the potential of the project. The analysis makes the following assumptions:

- no allowances was made for tax
- no allowances was made for inflation
- NPV is calculated against the full capital cost of process and infrastructure and does not include for credit or any other type of funding of the project
- no interest charges

The important economic and technical inputs are summarised as:

- A\$5/t rock for contractor mining
- A\$200/t feed for processing and administration
- A\$100/t feed for haulage from the ROM to the plant in Geraldton (including toll crushing)
- 90% recovery for both titanium and vanadium
- US\$3,000/t recovered TiO₂ price
- US\$11,000/t recovered V₂O₅ price
- AUD/USD exchange rate of 1

- 7.5% royalty to cover state royalty and processing technology license
- A\$109 M capital cost for processing plant, infrastructure and contractor mobilisation and demobilisation
- 12% discount rate.

Initial economic assessment indicates potential for a viable operation. The project highlights are:

- NPV of A\$87 M
- total cash flow of A\$516 M
- IRR of 24%
- payback period of four years
- average net operating cost of A\$1,214/t of recovered TiO₂.
- annual production of 13,000 t TiO₂
- annual production of 300 t V₂O₅.

PROJECT DEVELOPMENT AND CORPORATE STRATEGY

Following the robust Scoping Study results, Reed will now progress the continuous scale mini-pilot plant evaluation of the proprietary hydrometallurgical technology to produce high-purity titanium subject to the receipt of a technology licence, which is anticipated presently.

The Scoping Study has identified many opportunities to further improve the economics by optimising factors such as scalability of plant throughput rate, co-generation of electricity to reduce operating costs and to recover and market pure iron and aluminium oxide products.

Subject to the success of the mini-pilot scale testwork it is Reed's intention to proceed with a pre-feasibility study (PFS) as recommended by Snowden. The proposed work plan to the end of the PFS is anticipated to be funded internally, with an anticipated date of completion of September 2014.

The currently preferred project development strategy is to advance the project to a suitable stage of evaluation to attract a joint venture partner to fund and operate the development of the Barrambie project.

ENDS

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Competent Persons Statement

Information in this report that relates to Mineral Resources is based on information compiled by Mr Andrew Ross of Snowden Mining Industry Consultants, a Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM), and Dr Bryan Smith a Member of the Australian Institute of Geoscientists (AIG).

Information in this report that relates to Scoping Study Results is based on information compiled by Mr Harald Muller of Snowden Mining Industry Consultants, a Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM).

About Reed Resources

Reed Resources Ltd (ASX: RDR, OTC: RDRUY) is a Western Australian resource developer.

Reed Resources' American Depositary Receipts (ADR's) trade under the code RDRUY (CUSIP Number: 758254106). Each Reed Resources ADR is equivalent to 10 ordinary shares of Reed Resources as traded on the ASX. The Bank of New York Mellon is the depository bank.

Website: www.reedresources.com