

BARRAMBIE VANADIUM PROJECT: DEFINITIVE FEASIBILITY STUDY COMPLETED

- **High grade resource of 0.82% V₂O₅.**
- **Initial mining reserve of 39.7 Mt of ore at a grade of 0.82% V₂O₅.**
- **Indicated and Inferred Resource of 65Mt of vanadium ore**
- **Minimum of 12 years mine life at throughput of 3.2 Mt per annum.**
- **Capital cost estimated at A\$628.9 million.**
- **Total operating cost of less than US\$20/kg vanadium.**
- **Average EBITDA per annum of A\$105 million at US\$30/kg vanadium.**

Reed Resources Ltd. (ASX Code: RDR) is pleased to release the results of its Definitive Feasibility Study on the Barrambie vanadium deposit which is located 80 km north of Sandstone, Western Australia. The study has been the main undertaking of management for the past two years and cost some A\$15 million, including 55,000 metres of drilling.

Phase Three of the Definitive Feasibility Study (DFS) Delivered in April 2009.

Sinclair Knight Merz (SKM) the Company's Engineering Consultants completed Phase Three (Addendum) to The Definitive Feasibility Study in April 2009.

This study indicated that, based on the existing mineralisation, the Barrambie vanadium processing plant and associated infrastructure will target a throughput of 3.2 million tonnes per annum of vanadium bearing magnetite mineralisation at a grade of 0.82% V₂O₅ and produce either approximately 11,200 tonnes of vanadium pentoxide (V₂O₅) or 7,700 tonnes of ferro vanadium (FeV80) per annum, for a minimum 12 year period.

The final processing rate for the Barrambie Project has been chosen on the basis of balancing the feed between the beneficiation circuit and the kiln to maximise the production of vanadium.

Key Findings of Phase Three of the DFS

On the basis of the increased grade of the Central Zone mineralisation up from an average grade of 0.80% V₂O₅ to 0.82% V₂O₅ and the increased tonnages expected from the recently drilled northern mineralisation the following key findings were incorporated into Phase three of the DFS:



- **Metallurgical Recovery**

The metallurgical recovery of the ore resource to be treated by the processing plant was based on two years of detailed metallurgical test work and was calculated by applying recovery formulas to the resource on a block by block basis. The recovery formulas were dependant on a number of variables including the grade of V_2O_5 the ore zone type (Central or Eastern zone) the mole ratio of Fe_2O_3 and TiO_2 and the SiO_2 and Al_2O_3 content of the blocks.

- **All Magnetic Beneficiation Circuit**

The beneficiation test work has shown the ore to respond to magnetic, gravity and flotation processes. An all magnetic beneficiation circuit comprising of 6 LIMS, 6 REMS and 10 WHIMS machines was selected as it was established that such a circuit would be able to accommodate the range of ore characteristics expected to be encountered.

- **Grade of Concentrate 1.4% V_2O_5**

The mass of concentrate produced by the beneficiation process is expected to be in the vicinity of 970,000 tonnes per annum at a grade 1.4% V_2O_5 with a silica level of less than 2.4% SiO_2 .

- **Kiln Length Increased to 85 metres**

To accommodate the increased tonnage and grade of the concentrate the length of the roasting kiln has been increased from 75 metres to 85 metres. The calcined concentrate exiting the kiln is cooled in a 55 metre long, 5.5 metre diameter rotary cooler.

- **Recycle of Sodium Sulphate**

A mixture of sodium carbonate and sodium sulphate salts are proposed to be mixed with the concentrate and roasted in the kiln at temperatures in excess of 1200 degrees centigrade to solubilise/dissolve the vanadium present. The recovery and recycling of sodium sulphate from the refining circuit has the advantage of reducing the cost of salt and reducing the quantity of sodium salt potentially requiring disposal.

- **Water Supply Borefield and Pipeline**

The Barrambie project water supply requirements are estimated to be around 2.5GL/year. Ground water investigations have identified a shallow calcrete aquifer forming part of the Cogla Downs drainage system located approximately 30 km north of the proposed mine site. A pipeline approximately 30 km long will connect the borefield to the project.

- **Gas Supply**

A gas pipeline is proposed to be extended from the existing mid –west gas pipeline at Windimurra located approximately 133 kilometres south west of Barrambie to Barrambie.

- **Power Supply**

Electrical power for the operations will be supplied from a 28MW (installed capacity) dual fuelled, diesel/gas fired power station, built owned, operated and maintained by a contractor. Electricity will be reticulated from the power station to the process plant, mine operations and village via 11kv aerial distribution system.

- **Accommodation Village and Aerodrome**

In order to accommodate the fly in fly out (FIFO) work force a 250 bed permanent accommodation village is planned for Barrambie with an additional 150 beds available during construction. A 2km bitumen, sealed and certified aerodrome will be built at Barrambie in order to facilitate direct flights too and from Perth

Capital Cost of Barrambie Mine Development

Based on extensive test work including laboratory scale beneficiation and roasting in Perth laboratories (AMDEL, CSIRO and AMMTEC) and pilot scale roasting by Polysius in Germany, SKM has designed a robust state of the art plant that should have little difficulty in reaching the throughput and production targets set for it.

The capital cost estimate covers the cost of managing, designing, procuring and constructing the process plant, mine and associated infrastructure.

The owners costs include initial mining costs, plant EPCM, owners costs for the recruitment and management of an owners team prior to construction and sufficient capital to cover the owners site based team from recruitment through to commissioning plus a contingency factor of 10%.

Capital Costs Barrambie Mine Development	Aus \$
Site Establishment and Construction Costs	\$9.5M
Beneficiation Plant	\$108.3M
Roasting and Leaching	\$109.7M
Refinery	\$22.7M
Reagents	\$39.8M
Plant Services	\$57.5M
Infrastructure	\$68.9M
Ferro Vanadium	\$39.8M
Total Direct Construction Cost	\$456.2M
Pre commissioning, owner's costs, and EPCM	\$172.7M
Total Construction and Development Cost	\$628.9M

*This cost estimate provides a Definitive Feasibility level capital cost for the defined scope to an assessed accuracy of +12.5% and -10.9% at the 90% confidence range.

Operating Costs of Barrambie Mine Development

The operating cost estimate includes all forecast costs in mining ore and operating the process plant on an annualised basis. The cost has been derived by determining the annual cost of each operating expense component and developing an overall operating cost per tonne of ore milled.

Fixed operating cost includes labour, administration overheads, communications, insurances, and infrastructure maintenance.

Variable operating costs include energy and fuels, reagents, wear parts and consumables, maintenance parts, product packaging and miscellaneous.

- **Processing Cost**

Processing costs are commercial-in-confidence at this time.

- **Mining Cost**

Mining contractor quotes provided the basis for the calculation of the mining costs and based on conventional 100 tonne hydraulic excavators and 100 tonne rear dump trucks with an allowance for some blasting the mining cost per tonne of material (ore or waste) was calculated to be A\$3.09 per tonne.

Open Pit Optimisation

Snowden Mining Industry Consultants Pty Ltd ("Snowden") have carried out an open pit optimisation study on the previously reported Mineral Resource (announced 13th February 2009) to provide an Ore Reserve estimate and recoverable mining reserve (announced 5 May 2009) incorporating the following parameters:

- **Geotechnical Design Parameters**

Geotechnical investigations leading to detailed slope design parameters have been completed and the recommendation is for batter heights of between 10 and 15 metres with a batter angle of 55 degrees and a berm width of 10 metres, giving an overall slope angle of 45 degrees.

- **Selective Mining**

Because of the contrast in colour between the 2 to 10 metre wide sub-vertical magnetite bands of ore (brown to black) and the surrounding weathered gabbroic waste (pale colour to white) it is appropriate to use highly selective open cut mining techniques based on colour contrast too minimise the mining of unwanted high silica waste and maximise the mining recovery of magnetite ore.

- **Mining Contractor**

Unit mining cost of A\$3.09 /tonne ROM.

- **Cut-off Optimisation and Strip Ratio**

The Whittle optimisation process applied the above parameters to the resource and resulted in a number of pit shells that produced a range of cash flows from which the most optimal was chosen and used to produce a detailed open cut mine design. The strip ratio of waste to ore in the final pit design is 4.38 to 1.

Definitive Feasibility Study Revenue Outcomes

Revenue calculations are based on an estimate of the forecast market price for the period 2012 to 2020 for pure ferro vanadium of US\$30/kilogram, a discount factor of 8% and a long term exchange rate of one A\$ equals 0.6 US\$.

Based only on the existing mining reserve, the Barrambie vanadium processing plant and associated infrastructure will target a throughput of 3.2 million tonnes per annum and produce 7,700 tonnes per annum of ferro vanadium for a 12 year period. The conversion of additional resources to mining reserves will ensure the continuation of the long life of the project.

Project Finance

The global financial crisis is currently restricting access to previously available funding alternatives for a project of this nature. However, the Company continues to investigate various project development alternatives and strategies.

CJ Reed
MANAGING DIRECTOR

Competent Persons Statement

Mr William Crossley is employed as a Project Manager by Reed Resources Ltd. and the Definitive Feasibility Study has been compiled by Sinclair Knight Merz (SKM) under the Direction of Mr William Crossley. Mr Crossley is a Fellow of the Australasian Institute of Mining and Metallurgy and is a full time employee of Reed Resources Ltd. Mr Crossley has sufficient experience relevant to the project development under consideration to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results Mineral Resources and Ore Reserves". Mr Crossley consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.