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*High grade Copper Cement Concentrate  
ready for shipment*

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**ASX Code:** "RBM" "RBMO"

*e-lodgement  
9 Pages*

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## **Robust 6,300 tpa Copper Operation with Low Capital Start-up Costs Confirmed at Redbank Copper Project NT**

### **Summary**

The Company is pleased to report the results of a pre-feasibility study commissioned to evaluate development options for the Redbank Copper project.

The study shows that the project is technically viable and financially robust at current copper prices as well as the LME forward copper price over the medium term, generating an attractive return on investment and rapid capital payback.

Under the operating assumptions considered, the base case for the preferred staged project development option will result in:

- ▶ **31,500 tonnes of copper over 5 years, with average copper production of 6,300 tonnes per annum**
- ▶ **revenue based on resources in the top 100 metres alone of over \$196 million, and**
- ▶ **EBITDA of \$60 million over 5 years, with average project annual EBITDA of \$12.0 million.**
- ▶ **NPV<sub>(8%)</sub> is \$25.0m and IRR is 72.5%.**

Existing mine infrastructure and the small scale operations recently established attract significant capital cost savings and the opportunity for fast track development with a short payback compared to a new start up operation:

- ▶ **Oxides stage - capital costs are \$5.2m (+/-30%), start up within 12 months and payback within 15 months;**
- ▶ **Sulphides stage - capital costs \$14.2 million (+/-25%), start up within 24 months and capital payback of 18 months.**

The individual optimised pits generated by the study (for the Bluff, Redbank and Azurite deposits) show that material in the top 100 metres from surface averages a **mining head grade of:**

- ▶ **1.44% Cu for oxides and**
- ▶ **2.15% Cu for sulphides.**

The relatively low capital cost and the adoption of tried and proven copper recovery technology already in use by the Company for the oxides stage **represent an attractive development proposition with low financial and technical risk.** Coupled with the significant exploration upside inherent in the Company's exploration portfolio, this provides a solid foundation for sustained growth and attractive returns to shareholders.

## Background

Project mineral resources comprise near surface oxides in the top 40 metres from surface and sulphide material to a depth of 250 metres. Only resources easily accessible by open cut mining in the top 100 metres were considered in the study.

The mining and treatment of oxides and sulphides were evaluated separately as well as in aggregate.

### Oxides

Treatment by heap leaching followed by one of two process options was considered for the recovery of copper, namely cementation and SX-EW (solvent extraction electro-winning):

- (i) **cementation process** - a low capital cost / fast tack expansion of present operations to produce a high grade concentrate in a form known as copper cement (90%+ Cu dry weight). This option attracts smelter treatment and refining charges (ie a discount to LME spot commodity price), has a capital cost of about one third of SX-EW, and lower power requirements than SX-EW. Capital payback is 14 months.
- (ii) **SX-EW process** - a capital intensive and technically more complex processing route to produce copper metal at site. This option does not attract smelter charges (ie no discount to LME commodity price). Initial capital costs are higher, and the process consumes substantially more electricity per unit of copper produced. It is suited to locations where access to low cost grid power is available. Capital payback is 18 months.

Operating costs are comparable for the two processes, however the composition thereof is different. With SX-EW, additional diesel fuel needs to be transported to site to generate higher power requirements. With cementation, steel needs to be brought in as a reagent but power consumption is less.

The size of the present oxide resource favours the lower capital cost option. The project's remote location and seasonal climate also favour the less complex technology with which the Company is familiar. The cementation process displays the more favourable return on capital with less inherent technical and financial risk. For these reasons expansion of the present cementation operation for the treatment of oxides is preferred to an SX-EW process route.

The Company's staged development strategy to develop its oxide resources followed by development of sulphide resources provides flexibility and allows for the surplus generated in the initial years of the project's life to partially fund the refurbishment of the flotation plant for the treatment of sulphides.

### Sulphides

For sulphides, production would be through milling and traditional flotation processes to produce copper in concentrate (25-28% Cu) suitable for direct smelter feed. This would involve the refurbishment and commissioning of the Company's existing flotation plant purchased as part of the project.

Under the operating parameters and assumptions used in the review, production will scale up to 7,600tpa of copper in year 2 and average 6,300 pa over the first five years of production based on presently identified and mineable mineral resources accessible by open cut mining. Resources below a depth of 100m have been ignored for the purposes of the study.

## Scoping Study Assumptions and Results

Only material in the top 100 metres from surface has been included in the development study, based on a 500,000 tpa mining and treatment rate for oxides and 300,000 tpa for sulphides below the oxidation zone of 30-40 metres. The individual optimised pits generated by the study (for the Bluff, Redbank and Azurite deposits) show that material in the top 100 metres from surface report average **mining head grades of 1.44% Cu for oxides and 2.15% Cu for sulphides**. Components of the study include work completed by:

- Ammtec Limited – metallurgical test work on leaching characteristics of the oxide ore for mine planning purposes;
- MPC Metallurgical Project Consultants Pty Ltd – process design flow sheet, capital and operating cost estimates for heap leach and copper cementation versus solvent extraction - electrowinning (SX-EW) processing routes for treatment of oxide ores;
- Mining Dynamics – pit optimisation and design, mine planning and scheduling studies;
- Abesque Engineering Pty Ltd - estimate of refurbishment costs for flotation plant.

Key assumptions and results from the pre- feasibility evaluation studies at a base case copper price of US\$3.10, are summarized below.

### Project Economics for Oxides (Project Stage 2) and Sulphides (Project Stage 3)

BASE CASE for PROJECT OVERALL	
Oxides treated by Cementation Process and Sulphides by traditional flotation, A\$	US\$3.10/lb Cu A\$
A\$1.00 to US\$1.00 exchange rate (based on average forward curve)	\$0.88
Copper metal produced	31,343 tonnes
Average Annual Copper Production	6,300 tonnes
Project revenue – open cut to 100m depth only	\$196.0m
Pre-tax operating surplus (EBITDA)	\$60.0m
Pre-tax NPV at 8.0% discount rate (real)	\$25.0m
Pre-tax IRR (real)	72.5%
Average Annual EBITDA over 5 years	\$12.0m
Capital Cost (+/- 30% for oxides and +/- 25% for sulphide plant ) including first fills	\$19.4m

OXIDES Base Case Stand-alone, A\$	US\$3.10/lb Cu, A\$
Copper metal produced	9,861 tonnes
Project revenue – open cut	\$61.6m
Pre-tax operating surplus (EBITDA)	\$20.0m
Pre-tax NPV at 8.0% discount rate (real)	\$10.6m
Pre-tax IRR (real)	76.6%
Average Annual EBITDA over 3 years	\$6.7m
Capital Cost (+/- 30%) including first fills	\$5.2m
Capital Payback	14 months
Mine Life	3 years

SULPHIDES Base Case Stand-alone, A\$	US\$3.10 /lb Cu, A\$
Copper metal produced	21,482 tonnes
Project revenue – open cut only to 100m	\$134.2m
Pre-tax operating surplus (EBITDA)	\$39.6m
Pre-tax NPV at 8.0% discount rate (real)	\$14.3m
Pre-tax IRR (real)	65.3%
Average Annual EBITDA over 3.6 years	\$11.0m
Capital Cost (+/- 25%) including first fills	\$14.2m
Capital Payback	<i>US\$12.6m</i> 18 months
Mine Life (some overlap with Oxides in years 2 and 3 of oxides)	3.6 years

Base Case Production Statistics	Oxides	Sulphides
	A\$3.10/lb	
tonnes per annum of ore mined, crushed and stacked on heap leach pad (oxides), + milled (sulphides)	500,000	300,000
total tonnes mined and treated	0.83 mt	1.11 mt
Project total ore tonnes mined and treated	1.94 mt	1.94 mt
total waste tonnes mined including pre-strip	1.30 mt	11.00 mt
average strip ratio, Bluff, Redbank and Azurite pits for oxides; Sandy Flat and Bluff pits for sulphides	1.6	9.9
Project total waste tonnes mined and treated	12.3 mt	12.3 mt
average Cu grade mined	1.44%	2.15%
average Cu metallurgical recovery rate	80.0%	90.0%

Base Case Cash Operating Cost Estimates per tonne of ore treated, A\$	Oxides	Sulphides
	A\$3.10/lb	
Mining, including grade control	\$11.57	\$43.75
Processing (minesite costs)	\$32.10	\$28.50
Finished product haulage, selling and general admin	\$4.08	\$9.23
Total Operating Cost/t of ore	\$47.75	\$81.48

Cash Operating Cost Estimate per pound of Copper produced	Oxides	Sulphides
Cu price of US\$3.10/lb	A\$1.69 /lb	A\$1.73 /lb
	US\$1.49 /lb	US\$1.51 /lb

## Sensitivity Analysis

The Base Case scenario (Cu price of US\$3.10/lb, fx at A\$1.00 = US\$0.88) was tested against movements in the exchange rate, copper price and operating costs, with the following results and impact on project NPV and EBITDA:

### Project Sensitivities to Movements in Exchange Rate, Copper Price and Operating Costs

A\$ m	-15%		-10%		BASE CASE		+10%		+15%	
	NPV	EBITDA	NPV	EBITDA	NPV	EBITDA	NPV	EBITDA	NPV	EBITDA
Exchange Rate	59.4	107.1	40.2	80.7	25.0	60.0	12.5	42.4	7.1	34.9
Operating Costs	39.4	79.2	34.6	72.7	25.0	60.0	15.5	46.6	10.7	40.1
Copper price	4.4	31.2	11.3	40.6	25.0	60.0	38.7	78.6	45.6	88.1

The project is sensitive to movements in the copper price and exchange rate, but less sensitive to movements in operating costs. For example a 10% fall in the copper price sees a 32% reduction in EBITDA, conversely a 10 % rise in the copper price results in an increase of 31% in EBITDA. Similarly, a 10% fall in the exchange rate sees a 33% increase in project EBITDA and a 10% increase in the exchange rate results in a reduction of 29% in project EBITDA. A 10% increase in operating cost will decrease EBITDA by 22% and conversely a reduction of 10% in operating costs will result in an increase in EBITDA of 21%.

## Mineral Resources

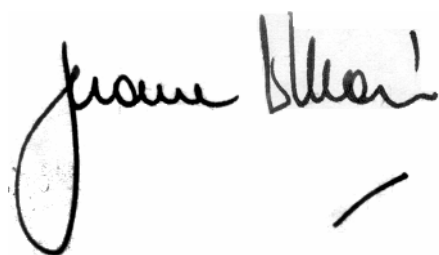
The Appendix sets out the project mineral resources by deposit and the split between oxide and sulphide mineralisation.

## Definitive Feasibility Study to Fast Track Development

The Company now plans to complete a definitive feasibility study for the project as quickly as possible for the preferred cementation treatment route for oxides. The study will include determination of optimal mining and throughput rates, mine scheduling, completion of additional metallurgical test work for the leaching process, engineering design and development timing for new oxide and sulphide circuits.

As part of the study, short term in-fill drilling of approx 2,500 m of diamond and RC drilling is planned aimed at improving the confidence level of JORC classified Mineral Resources presently in the Inferred Resource category, allowing for completion of reserve estimation and a detailed mine plan and schedule.

Yours faithfully

A handwritten signature in black ink, appearing to read 'Jerome Vitale', with a large loop at the end.

**Redbank Mines Limited**  
**Jerome G Vitale**  
**Managing Director**

**Note**

**Competent Person 1:**

The information in this announcement that relates to Mineral Resources is based on information compiled by Mr **Phil Jankowski**, who is a Member of The Australasian Institute of Mining and Metallurgy. Phil Jankowski is a full-time employee of SRK Consulting (Australasia) Pty Ltd, and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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 Jankowski consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

**Competent Person 2:**

The information contained in this announcement, insofar as it relates to the Company's exploration results at the Redbank Copper Project, is sourced from information compiled by **Dr D James Searle**, B.Sc, PhD, MAusIMM,. Dr Searle is an Executive Director of Redbank Mines Limited and has sufficient expertise relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Mineral Resources and Reserves'. Dr Searle has approved the inclusion of the statement in the form and context which it appears.

## APPENDIX

**Redbank Copper Project – JORC Mineral Resources - Classified by Depth from Surface.**  
**Source: SRK Consulting 17 July 2007 (refer the Company's ASX announcement of 18 July 2007 for full details)**

**TABLE 1**

Prospect	Indicated		Inferred		Total	
Within 100m of the surface:						
	Tonnes	Cu (%)	Tonnes	Cu (%)	Tonnes	Cu (%)
Sandy Flat	467,000	1.6			467,000	1.6
Bluff	856,000	1.5			856,000	1.5
Punchbowl			350,000	1.2	350,000	1.2
Redbank			372,000	1.5	372,000	1.5
Azurite			214,000	1.3	214,000	1.3
Sub-total top 100m	1,323,000	1.5	936,000	1.3	2,259,000	1.5
More than 100m from the surface:						
Sandy Flat			1,524,000	1.2	1,524,000	1.2
Bluff			1,179,000	1.7	1,179,000	1.7
Punchbowl			66,000	1.6	66,000	1.6
Redbank						
Azurite						
Sub-total below 100m from surface			2,769,000	1.4	2,769,000	1.4
Total Project	1,323,000	1.5	3,705,000	1.4	5,028,000	1.4

(i) Bluff Database of 53 holes to a depth of 335m. Leapfrog™ software used to create a wireframe interpretation at 0.5% Cu, incorporating a mineralization control of a steeply plunging breccia pipe. A central high grade zone was also modeled at 2% Cu cutoff. Grades were estimated using ordinary kriging with x and y block sizes of 15m each, and 5m block size for z, isotropic search distance of 40m, with a minimum and maximum composites of 8 and 64 respectively. Density applied was 2.2 t/m<sup>3</sup> in the oxide, and 2.6 in the sulfide. Blocks above ~100m vertical depth were classified as Indicated, below this Inferred on the basis of a decrease in data density.

(ii) Punchbowl Database of 122 holes to a depth of 335m. Leapfrog™ software used to create a wireframe interpretation at 0.5% Cu, incorporating a mineralization control of a steeply plunging breccia pipe. Grades were estimated using ordinary kriging with x and y block sizes of 10m each, and 5m block size for z, isotropic search distance of 50m, with a minimum and maximum composites of 8 and 48 respectively. Density applied was 1.8 t/m<sup>3</sup> in the oxide, and 2.2 in the sulfide. The resource is classified as Inferred due to the less defined nature of the resource shell.

(iii) Redbank Database of 88 holes to a depth of 324m. Leapfrog™ software used to create a wireframe interpretation at 0.5% Cu, incorporating a mineralization control of a steeply plunging breccia pipe. Grades were estimated using ordinary kriging with x and y block sizes of 10m each, and 5m block size for z, isotropic search distance of 40m, with a minimum and maximum composites of 8 and 32 respectively. Density applied was 2.1 t/m<sup>3</sup>. The resource is classified as Inferred due to lack of spatial control of the contacts of the resource shell and drillhole survey uncertainties.

(iv) Azurite Database of 67 holes to a depth of 250m. Leapfrog™ software used to create a wireframe interpretation at 0.5% Cu, incorporating a mineralization control of a steeply plunging breccia pipe. Grades were estimated using ordinary kriging

with x and y block sizes of 10m each, and 5m block size for z, isotropic search distance of 40m, with a minimum and maximum composites of 8 and 64 respectively. Density applied was 2.1 t/m<sup>3</sup>. The resource is classified as Inferred due to lack of spatial control of the contacts of the resource shell.

(v) Sandy Flat Database of 70 holes to a depth of 405m. Leapfrog™ software used to create a wireframe interpretation at 0.5% Cu, incorporating a mineralization control of a steeply plunging breccia pipe. A high grade supergene zone (already mined) was also modelled at 3.5% Cu cutoff. Grades were estimated using a 15m maximum extension above 90m vertical depth, with unconstrained modelling below that. Density applied was 2.1 t/m<sup>3</sup>. Blocks above ~ 90m vertical depth were classified as Indicated, below this Inferred due to a lack of down-hole survey.

**TABLE 2:**  
**Mineral Resource by deposit showing split between oxide and sulphide mineralisation**  
**(refer the Company's ASX announcement of 18 July 2007 for full details).**

Deposit / Ore Type	Indicated		Inferred		Total Resource (*)		
	Tonnes	Cu%	Tonnes	Cu%	Tonnes	Cu%	Cu Tonnes
Oxides:							
Bluff	458,000	1.3	-	-	458,000	1.3	5,950
Punchbowl	-	-	31,000	0.9	31,000	0.9	250
Redbank	-	-	372,000	1.5	372,000	1.5	5,600
Azurite	-	-	214,000	1.3	214,000	1.3	2,850
<b>Total Oxides</b>	<b>458,000</b>	<b>1.3</b>	<b>617,000</b>	<b>1.4</b>	<b>1,075,000</b>	<b>1.4</b>	<b>14,700</b>
Sulphides:							
Sandy Flat	467,000	1.6	1,524,000	1.2	1,991,000	1.3	25,750
Bluff	398,000	1.7	1,179,000	1.7	1,577,000	1.7	26,450
Punchbowl	-		385,000	1.3	385,000	1.3	4,900
<b>Total Sulphides</b>	<b>865,000</b>	<b>1.7</b>	<b>3,088,000</b>	<b>1.4</b>	<b>3,953,000</b>	<b>1.4</b>	<b>57,100</b>
<b>Project Total</b>	<b>1,646,000</b>	<b>1.5</b>	<b>3,382,000</b>	<b>1.3</b>	<b>5,028,000</b>	<b>1.4</b>	<b>71,050</b>