

**ASX RELEASE**  
**13<sup>th</sup> December 2004**

**COBURN MINERAL SAND  
PROJECT BANKABLE FEASIBILITY STUDY  
RESULTS**

**HIGHLIGHTS**

- Bankable Feasibility Study completed, with positive results, encouraging the Company to proceed with mine development, subject to environmental approvals and appropriate offtake and funding arrangements.
- Financial modelling of the Project has been based on the sale of heavy mineral concentrates f.o.b. at the port of Geraldton, which has reduced the initial capital costs and improved the financial returns from previous studies, which included processing to final mineral products.
- Over the 18 year life of the Project, total revenue is estimated at \$1.3billion, with an operating cash surplus of \$560 million.
- The Project returns, on an ungeared basis, an NPV of \$73 million at an 8% discount rate with an IRR of 15.4%.
- Approximately 60% of the revenue from the proposed mine is from zircon, for which there is a very strong market outlook. The zircon price has doubled since 2000 and even higher prices are currently being settled for delivery in 2005.
- Discussions with potential local and overseas offtake customers are in progress and there has been strong interest from some overseas customers to assist in financing development of the Project.
- Proposed mining operation scheduled to commence in late 2006.

**INTRODUCTION**

The Bankable Feasibility Study (BFS) on the Company's wholly owned Coburn Mineral Sand Project in Western Australia, which commenced in May 2003, has now been completed. This study has concluded that the Coburn Project can sustain a long life and financially attractive mining operation, supplying approximately 5% of the world's present zircon demand when at full scale production.

The Company anticipates commencing construction once mining permits are granted. These approvals are expected early in the fourth quarter of 2005. Gunson has also entered into a conditional agreement to purchase the Coburn pastoral lease,

where mining operations are to be focused for the first half of the Project life. This will assist in reducing mine operating costs and allow greater operational flexibility over the life of the Project.

Discussions with potential customers have been in progress for several months and the Company is confident that offtake agreements for the entire mine output will be concluded by mid 2005. Completion of debt and equity financing for the Project should follow the grant of mining approvals. Commissioning of the mining operation is anticipated in late 2006.

## **PROJECT LOCATION AND LOGISTICS**

Coburn is located immediately south of Shark Bay and 250 kilometres north of the regional centre of Geraldton in Western Australia (Figure 1). Geraldton is a major mineral sand refining centre with a deep water port and mineral sand shipping infrastructure.

The BFS has assumed that heavy mineral concentrate from the Coburn Project will be trucked to Geraldton via a mine access road from the southern end of the ore body, on the Coburn pastoral lease where mining is to begin (Figure 2). This proposed access road is some 50 kilometres long and would meet the North West Coastal Highway approximately 236 kilometres north of Geraldton. An accommodation camp for approximately 130 people is to be built near the western end of the mine access road.

## **BFS PARTICIPANTS**

In its latter stages, the BFS has been coordinated by metallurgist Alan Luscombe who was appointed as General Manager – Coburn Mineral Sand Project in mid September 2004. Mr Luscombe will be responsible for bringing the Project into commercial production and has over 35 years experience in the mining industry, predominantly in mineral sand operations with RGC Ltd. He has managed operations in Western Australia and overseas.

Former Consolidated Rutile mining engineer Phillip McMurtrie has developed the mining method for the Project. Mr McMurtrie worked in several roles with Consolidate Rutile, including mine planning and feasibility studies at their North Stradbroke Island mineral sand mine between 1990-2003.

Geological documentation and resource definition drilling was supervised by Company senior geologist Mr Paul Leandri, an experienced mineral sand geologist who worked for RGC Limited between 1990 and 1998. Mr Leandri has been associated with the Project since 2002.

The main consulting and contracting companies who have contributed to the study are listed below:

<i>Roche Mining – Mineral Technologies Pty Ltd</i>	Metallurgy, plant design and costing.
<i>McDonald Speijers</i>	Resource modelling
<i>Tennent Isokangas Pty Ltd</i>	Ore reserves, mine optimisation
<i>Energy Developments Ltd</i>	Minesite power
<i>URS Australia Pty Ltd</i>	Water, environmental
<i>Thyssen Krupp</i>	Mining equipment

<i>Piacentini and Sons</i>	Topsoil mining, road construction
<i>BGC Contracting</i>	Road haulage
<i>TZMI</i>	Marketing study
<i>Ernst and Young</i>	Financial model and advice

## AMY ZONE RESOURCE

The Amy Zone heavy mineral sand deposit was discovered by Gunson in 2000. It is approximately 35 kilometres long by up to 3 kilometres wide (Figure 2) and is hosted predominantly in unconsolidated sand dunes with a very low slime content.

Mineralisation within Amy Zone occurs between the surface and a largely impermeable clay rich sediment basement. Heavy minerals are present over a very large area but higher grades are more common near the base of the sand dunes and lie within a narrower northerly trending zone which bends eastward at its northern end. (Figure 2). From the southern end of Amy Zone, the basement dips gradually northward towards Shark Bay at a slightly steeper angle than the ground surface, resulting in an increase in overburden thickness northwards, except for the northern end where economic mineralisation occurs from the surface to 40 metres depth. The thickness of the ore body averages 15 metres with an average 7 metres of mineralised overburden.

Resource estimates have been based on some 1330 drill holes, 325 of which were completed in mid 2004. The drill traverse spacing in the southern 13 kilometres of the area is 500 metres, with a 6 kilometre section where the spacing is 250 metres. In contrast, the remainder of Amy Zone has been drilled at a 1 kilometre traverse spacing.

Total Indicated and Inferred resources have been estimated to be approximately 710 million tonnes averaging 1.4% heavy mineral, as outlined in Table 1 below:

**Table 1. Coburn Heavy Mineral Resources**

<b>Resource Category</b>	<b>Million Tonnes</b>	<b>Average Grade Heavy Mineral %</b>	<b>Cut-off Grade Heavy Mineral %</b>
Indicated	250	1.4	0.9
Inferred	460	1.4	0.9
Total	710	1.4	0.9

Inferred resources occur in the widely drilled northern part of the area and were estimated by Paul Leandri. Indicated resources are located in the better drilled southern 13 kilometres and were estimated by McDonald Speijers.

There is good potential to increase the resource, particularly to the east where a number of drill traverses finished in ore.

## **PIT OPTIMISATION/ORE RESERVES**

Mining consultants Tennent Isokangas have completed pit optimisation studies on the 13 kilometre long southern portion of Amy Zone, where drilling information is sufficient to develop a three dimensional block model. This has resulted in a probable ore reserve of 230 million tonnes averaging 1.1% heavy minerals at a cut-off grade of 0.82% heavy minerals, with a 0.3:1 strip ratio ( waste:ore).

For the remainder of Amy Zone, Company geologist Paul Leandri has used a two dimensional model to estimate from the inferred resource, a potentially mineable portion of 370 million tonnes averaging 1.1% heavy minerals with a 0.6:1 strip ratio.

## **MINING METHOD**

The mining method chosen for the BFS comprises a three stage process, as follows:

- Topsoil removed by scrapers and stockpiled for rehabilitation.
- Overburden removed by bucket wheel excavator and conveyed into the void left behind by mining of the ore.
- Ore mined by a second bucket wheel excavator is screened in the pit, mixed with water and pumped to the concentrator near the edge of the pit.

The concentrator has been designed for periodic relocation as mining progresses northward from the southern tip of Amy Zone. Tailings from the concentrator are to be pumped back into the pit void for rehabilitation, the water being recovered by a cyclone system for re use in the concentrator.

Costing for the topsoil mining has been based on quotes from Piacentini and Son, who currently supply contract mining services to several major mineral sand producers. It has been assumed that Gunson will own and operate the bucket wheel excavator units for mining of the overburden and ore. Capital and operating costs have been based on Thyssen Krupp S400 bucket wheel excavators, with a capacity of 2300 tonnes per hour.

## **MINERAL PROCESSING**

Metallurgical test work to guide the design and costing of the minesite concentrators and mineral separation plant was carried out by Roche Mining - Mineral Technologies on a 58 tonne bulk sample from Amy Zone South collected in late 2003.

The metallurgical recoveries of the valuable heavy mineral products were improved compared with the results of previous tests on samples from Amy Zone South and more northerly parts of the Amy Zone deposit. Three final products resulted from the test work: ilmenite with 60% TiO<sub>2</sub>, ceramic grade zircon and HiTi, a mixture of all the recoverable leucoxene and rutile, containing 91.5% TiO<sub>2</sub>.

Whilst acid leaching of the zircon product to remove iron staining was successful the silica content of the ilmenite product is high by world standards. However, the ilmenite product has some important attributes, including a low uranium-thorium

content, which make it attractive as a blend for synthetic rutile production or chloride pigment feedstock.

### **MINESITE CONCENTRATORS**

Roche Mining – Mineral Technologies have designed a heavy mineral concentrator with a nameplate capacity of 2000 tonnes per hour.

The Roche design includes their new TC 1 high capacity spirals and a final stage wet magnetic separator. This latter unit results in further upgrading of the heavy mineral concentrate into 2 approximately equal tonnage streams: a magnetic concentrate dominated by ilmenite and a non magnetic concentrate dominated by zircon, with lesser rutile and leucoxene. Both concentrates have very little uneconomic (trash) heavy minerals.

### **MINESITE POWER/WATER SUPPLY**

Power for the minesite is to be based on natural gas, with an installed generating capacity of 8 megawatts attached to each concentrator. Natural gas is to be trucked to the minesite for storage.

Water for the concentrators is to be pumped from brackish groundwater aquifers some 200 to 350 metres below the surface. Test drilling currently being completed at Amy South indicates that 2 water bores will be needed to supply each concentrator. Recycling of process water will be a feature of the operation.

### **MINERAL SEPARATION PLANT (MSP)**

Roche Mining – Mineral Technologies have designed and costed an MSP which has a capacity to treat 26tph of magnetic and 24tph of non-magnetic concentrates. The capital cost of this plant is higher than the Company anticipated and has made the sale of concentrate a more financially attractive alternative. Nevertheless, investigations aimed at reducing the capital cost of an MSP will continue.

### **HEAVY MINERAL PRODUCTION**

At a feed grade of 1.1% heavy minerals, each concentrator will produce approximately 105,000 tonnes per year of saleable heavy mineral products, as shown in table 2 below.

Note that production is scheduled to double from year 3 when a second concentrator is commissioned.

**Table 2. Estimated Annual Production – Years 1 to 5 (tonnes)**

<b>Product</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
Zircon	30,000	30,000	60,000	60,000	60,000
Ilmenite	60,000	60,000	120,000	120,000	120,000
HiTi	15,000	15,000	30,000	30,000	30,000

## PRICES

Prices for the heavy minerals contained in the Coburn concentrates are shown in table 3 below.

**Table 3. Product Price Estimates**

Product	Price \$US/Tonne <sup>#</sup>	% of Revenue	Y1-2: % of World Production	Y 3-5: % of World Production
Zircon	580	63	2.5	5.0
Ilmenite	80	18	3.5 *	7.0 *
HiTi	350	19	7.5	15.0

*# Prices are within the ranges provided by TZMI.  
\* % of chloride ilmenite.*

The estimated concentrate price is based on the pro rata value of each end product in the concentrate, less the following:

- transport costs from Geraldton
- treatment charges
- losses in the MSP based on figures provided by Roche
- profit margin

## CAPITAL COSTS

Estimates of capital costs are higher than those in the Pre Feasibility Study (PFS) Review outlined on page 10 of Gunson's 2003 Annual Report. This is due to a combination of higher site infrastructure expenditure and increases in material and labour costs for the minesite concentrator, and the MSP.

For comparison, the capital costs for the previous and present studies are listed in table 4 below:

**Table 4. Initial Capital Costs – Coburn Project (\$A million)**

	PFS Review 2003	BFS 2004
Site Infrastructure	1.4	14.0
Concentrator	25.7	45.7
Pre strip	4.6	0.7
MSP	30.8	*
Bucket Wheel Excavators (2)	-	11.2
<b>Total Initial Capital</b>	<b>62.5</b>	<b>71.6</b>

*\* \$A86.3 million cost of MSP not included in the financial evaluation quoted below.*

The 2003 PFS Review envisaged three concentrators at full production, with a total capital cost of \$114M. In contrast the current BFS assumes that full production will be attained with two concentrators and that an MSP will not be built, making the total capital cost \$128.5 M.

The 2004 capital costs are believed to be conservative and the Company expects to reduce them before final contracts are awarded.

## FINANCIAL EVALUATION

Financial modelling based on a staged dry mining development at the south end of Amy Zone has shown that the Project is commercially attractive. The modelling assumed that mining begins with one concentrator and is ramped up to full production with a second concentrator of the same capacity in year 3. Modelling also assumed the throughput rate of the concentrators is 2200 tph. This is within the performance capability of the concentrator and results in an 18 year mine life with the reserves and resources listed in Table 1.

Several scenarios have been run on the financial model developed for the Project by Ernst and Young. A comparison of the current study with the most recent set of previous financial figures (see 2003 Annual Report, page 10), is set out in table 5 below.

**Table 5. Revenue, Cost and Return Estimates**

	<b>PFS Review 2003 *</b>	<b>BFS 2004 #</b>
Total Revenue	\$1,405 M	\$1,336 M
Total Operating Costs	\$1,007 M	\$776 M
Operating Cash Surplus	\$399 M	\$560 M
Capital Cost	\$114 M	\$128.5 M
Cost/tonne HMC	\$157	\$99
IRR after tax	23%	15.4 %
NPV (8%)	\$64 M	\$73 M
Exchange rate	\$0.65	\$0.70

\* 60% gearing

# no gearing

*Note that at the current exchange rate of \$0.75 and a 2005 zircon price of \$US650, the after tax IRR and NPV for the BFS 2004 are slightly higher.*

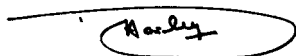
## CONCLUSIONS

Results of the BFS have confirmed that the Coburn Project can sustain a long life and financially attractive mining operation. Consequently, the Company has decided to proceed with the following work program in 2005:

- tender and proceed with detailed engineering design and costing of the minesite concentrator and ancillary infrastructure

- a public environmental review of the proposed Amy Zone mining operation; with a view to obtaining development approvals in the December quarter of 2005
- infill drilling on parts of the Amy South Zone to upgrade some probable ore reserves to proven, along with extension drilling to the east.
- completion of the purchase of the Coburn pastoral lease
- negotiation of concentrate offtake agreements by mid 2005
- completion of debt and equity financing arrangements once offtake agreements have been concluded.

Discussions with potential local and overseas offtake customers are in progress and there has been strong interest from some overseas customers to assist in financing development of the Project.



**D N HARLEY  
MANAGING DIRECTOR**

**Investor Enquiries:**

**Telephone:** 08 9226 3130  
**Facsimile:** 08 9226 3136  
**Email:** [enquiries@gunson.com.au](mailto:enquiries@gunson.com.au)  
**Website:** [www.gunson.com.au](http://www.gunson.com.au)  
**Address:** PO Box 1217, West Perth  
 Western Australia 6872

**Attachments:**

**Figure 1:** Coburn Project – Regional Setting  
**Figure 2:** Coburn Project – Proposed Amy Zone Mine Development

**ATTRIBUTION**

The information contained in this release is based on, and accurately reflects, information compiled by Mr D N Harley and Mr A Luscombe, both corporate members of the Australasian Institute of Mining and Metallurgy. Both have over five years experience in the field of activity being reported on.

Information relating to inferred mineral resources in this release is based on data compiled by Mr Paul Leandri of Gunson Resources Limited, who has over 15 years relevant experience in the field of activity being reported on. Mr Leandri is a member of the Australian Institute of Geoscientists and a corporate member of the Australasian Institute of Mining and Metallurgy. He has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he has undertaken, to qualify as a Competent Person as defined in the 2004 release of the “Australasian Code for Reporting of Mineral Resources and Ore Reserves”. Mr Leandri consents to the inclusion of the information in the report in the form and context in which it appears.



The information in this release that relates to indicated mineral resources is based on data compiled by Mr John McDonald of McDonald Speijers, who has over 30 years of relevant experience in the field of activity being reported on. Mr McDonald is a corporate member of the Australasian Institute of Mining and Metallurgy. He has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he has undertaken, to qualify as a Competent Person as defined in the 2004 release of the "Australasian Code for Reporting of Mineral Resources and Ore Reserves". Mr McDonald consents to the inclusion of the information in the report in the form and context in which it appears.

Information relating to ore reserves in this release is based on data compiled by Mr Hayden Tennent, Director of Tennent, Isokangas Pty Ltd Mining Consultants, in close association with Mr Phillip McMurtrie, an independent mining consultant. Mr Tennent has received information and data from Gunson Resources and their agents, and has accepted it in good faith. Other than the mine planning and the estimation of tonnage and grades, other competent parties have carried out the preparation of the information contributing to the reserve. This information is to a standard that allows the southern portion of the Amy Zone reserve to be classified a Probable Reserve under the "Australasian Code for Reporting of Mineral Resources and Ore Reserves". A site visit was conducted by Mr McMurtrie.

Both Mr McMurtrie and Mr Tennent have over 20 years relevant experience between them in the field of activity being reported. Both are corporate members of the Australasian Institute of Mining and Metallurgy. Mr Tennent is a member of the Mineral Industry Consultants Association. He 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 release of the "Australasian Code for Reporting of Mineral Resources and Ore Reserves". Both Mr McMurtrie and Mr Tennent are independent of Gunson Resources Ltd and have no financial interest in the Project. Mr Tennent consents to the inclusion of the information in the report in the form and context in which it appears.