

ASX RELEASE 2 MAY 2003

# COBURN MINERAL SAND PROJECT BANKABLE FEASIBILITY STUDY COMMITMENT

## **HIGHLIGHTS**

- Former Iluka Resources Executive General Manager Operations, Hamish Bohannan and former Aquarius
  Platinum Finance Director, Craig Munro have completed
  an evaluation of options for progressing the Coburn Mineral
  Sand Project (Coburn Project) to commercial production.
- The evaluation concluded that the Coburn Project should be progressed to a bankable feasibility study (BFS) based on less capital intensive and lower operational risk dry mining methods.
- The BFS will be divided into two phases. The first phase comprising infill drilling and further metallurgical test work has commenced and is to be completed in June 2003.
- Subject to a satisfactory first phase result, the balance of the study is scheduled to commence in July 2003 for completion by January 2004.
- Using the same financial parameters as those in the pre feasibility study (PFS), the staged dry mining alternative significantly improves the financial returns of the Coburn Project to a net present value of \$67 million (PFS:\$44 million) and an internal rate of return of 22% (PFS:21%) on a cash operating surplus of \$442 million after tax.
- Staged development is envisaged to commence at the southern end of the Amy Zone deposit in late 2005 with initial capital costs in the order of \$60 million, approximately \$100 million less than the stand alone dredge mining alternative estimated in the PFS.
- Provided that the BFS is sufficiently positive, a 12 month construction period is expected to commence in the June 2004 quarter with operations to begin in mid to late 2005.



## 1 INTRODUCTION

As announced on 31 January 2003, a PFS on the Amy Zone deposit at Coburn, Western Australia, located immediately south of Shark Bay and 250 kilometres north of the regional centre of Geraldton (Figure 1), showed that it could sustain a long life and financially attractive mining operation. This study assumed the Amy Zone deposit would be mined by two large scale conventional dredges and floating concentrators, with a total initial capital cost of \$162 million.

Following the completion of the PFS, former *Iluka Resources* Executive General Manager - Operations, Hamish Bohannan and former *Aquarius Platinum* Finance Director, Craig Munro were appointed to evaluate options for progressing the Amy Zone to commercial production. This evaluation included a due diligence review of the PFS, investigation of alternative mining methods and production rates, and capital cost reduction.

The Amy Zone deposit consists of an upper dunal horizon grading between 0.6% and 2.0% heavy minerals and a lower marine horizon containing a high grade core in excess of 2.0% heavy minerals. A substantial proportion of the overburden and interburden also contains heavy mineral concentrations of between 0.2% and 0.6%. By industry standards, slime levels are very low, averaging less than 3%, a favourable situation for a low cost mining operation.

The exploration potential of the Coburn Project is excellent and a major exploration program to expand the current Amy Zone inferred resource of 516 million tonnes at 1.4% heavy minerals is justified.

## 2 EVALUATION RESULTS

#### 2.1 Overview

The evaluation by Mr Bohannan and Mr Munro has confirmed that the Amy Zone deposit is financially attractive and recommended that Gunson should progress the Coburn Project to a BFS, based on less capital intensive and lower operational risk dry mining methods. By progressing the Project to a BFS in its own right, Gunson will retain greater equity, as well as maximising flexibility and control over the timing and scale of any future mine development.

## 2.2 Advantages of Dry Mining Strategy

In contrast to the dredge mining proposal in the PFS, the dry mining option proposed for the BFS is based on using large front end loaders supplied and operated by contractors. Ore would be dumped into hoppers and slurried to a skid mounted heavy mineral concentrator located on the pit floor. This would allow mining and mineral concentrating operations to progress along the length of the Amy Zone deposit as the mining face advances in a fashion analogous to dry dredging. With the heavy mineral concentrate removed, the remaining sand would be deposited in the



mined out sections and rehabilitated with native vegetation in accordance with best practice environmental management.

Contractors, using mobile power generation facilities, would supply power for the mining operation.

Advantages of the dry mining option are considerable and include the following:

- The ability to commence the Project at a relatively modest throughput of about 2,000 tonnes per hour, just over a third of that proposed in the PFS.
- Minimises operational risk by not commencing a full scale operation at start-up.
- A major saving in initial capital costs. Initial capital costs should be in the order of \$60 million, approximately \$100 million less than the stand alone dredge option estimated in the PFS. Most of these savings would be achieved by utilising cheaper contractor-supplied mobile mining equipment rather than high cost dredges, outsourcing the power generation and building up the mineral processing capacity in several stages. The study also indicates that the approximately \$40 million required for subsequent expansion to 6,000 tonnes per hour could be funded from Project cash flow.
- Allows greater geological selectivity during mining. Mining with front end loaders would allow preferential selection or rejection respectively of high grade ore pockets or low grade interburden, whereas dredges generally have to take everything in their path.
- Lower environmental impact. Dry mining lends itself to a smaller mine footprint and tighter water management, seen as an important issue in this fairly arid environment.

Once established, production could be increased in two increments to a final mining rate of approximately 6,000 tonnes per hour within a seven year period.

## 2.3 Mineral Products

It is envisaged that a dry mineral separation plant would be built in Geraldton (Figure 1). The concentrate would be trucked from the mine to Geraldton in modern purpose built trucks.

The review confirmed that the heavy mineral suite from the Amy Zone deposit is very attractive, with high grade ilmenite and premium zircon products. With relatively low uranium and thorium levels and high TiO<sub>2</sub> at just over 60%, the ilmenite is expected to be good synthetic rutile



feedstock. At current product prices, zircon accounts for just over half the total Project revenue and the market outlook for zircon is very positive.

## 2.4 Financial Aspects

Revenue from the sale of mineral products estimated in the PFS was verified as approximately \$1.5 billion over the 20 year life of the Project.

Importantly, the PFS review has resulted in significant improvements to the financial returns of the Coburn Project. The improvements are a result of the dry mining method and reduced capital requirements. The Project will generate \$1.5 billion in revenue and cash flows of \$442 million after tax. Assuming a debt to equity ratio of 60:40, the Project cash flows have been valued on a NPV (8%) basis at \$67 million with an IRR of 22%.

## 3 BFS BUDGET AND TIMING

The total cost of preparing a BFS for the Coburn Project is estimated to be \$1.5 million. Nearly half the cost will be for infill drilling to better define mineralisation, mainly in the southern part of the Amy Zone, where mining is envisaged to start in mid to late 2005.

The study is to be split into two phases. An initial phase, already in progress, comprises drilling on a 500 metre by 100 metre grid pattern and mineral quality testing of drill samples. This phase is scheduled for completion by June 2003. Subject to satisfactory results, the balance of the study is scheduled to commence in July 2003 for completion by January 2004. This latter phase will include more detailed infill drilling, further metallurgical test work, metallurgical design, detailed engineering, mine planning, environmental surveys, community consultations, marketing and project financing.

#### 4 CONCLUSIONS

Directors of Gunson have approved the commencement of the first phase of the BFS, estimated to cost about \$200,000 and due for completion in June 2003. Subject to favourable results, the balance of the BFS would be initiated at an estimated cost of \$1.3 million for completion by January 2004. Directors are considering various options to fund the second stage of the BFS

The study is to be funded by Gunson and managed by Mr Bohannan and Mr Munro. It is expected to lead into a 12 month construction period commencing in the June 2004 quarter with operations to begin in mid to late 2005.

- Chongai

D N HARLEY MANAGING DIRECTOR 2 May 2003



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## Attachments:

Figure 1: Coburn Project – Regional Setting

#### **ATTRIBUTION**

The information contained in this report is based on, and accurately reflects, information compiled by Mr D N Harley, a corporate member of the Australasian Institute of Mining and Metallurgy, who has over five years experience in the field of activity being reported on.

The above evaluation of the Coburn Project was carried out by Mr H Bohannan and Mr C Munro. Both have sufficient experience in preparing feasibility studies relevant to the style of mineralisation and type of deposits under consideration and to the activity which they are undertaking, to qualify as Competent Persons as defined in the 1999 release of the "Australasian Code for Reporting of Mineral Resources and Ore Reserves". Both persons consent to the inclusion of the information in their report in the form and context in which it appears.



