

31 October 2006

## QUARTERLY REPORT TO 30 SEPTEMBER 2006

### HIGHLIGHTS

- In early September 2006, Austpac announced a Research Agreement with BHP Billiton to continue the ongoing development of the Company's ERMS SR technology for the production of high grade synthetic rutile and a direct reduced iron co-product (DRI). The program includes testing the metallisation and continuous leaching steps, which are key elements of the process, prior to construction of the ERMS SR Demonstration Plant at Newcastle. This three month program is targeted for completion by the end of November 2006.
- Testwork on the EARS process, in particular the pelletisation of iron chlorides and recovery of iron from mill scale and arc furnace dust, commenced using waste materials provided by steel companies interested in the commercial application of the EARS process.
- Joint venture partner, Australian Zircon N.L., plans to test drill selected areas within the core of the WIM 150 heavy mineral deposit during the next quarter. The objective is to confirm zircon distribution in comparison with earlier exploration drill data as part of the future establishment of a JORC-code compliant resource estimate.
- Gold programmes in China continued during the quarter with emphasis on legal and administration obligations of operating in the PRC. Formal legal agreements which will allow exploration for sulphide gold mineralisation below oxide gold mines are expected to be concluded before the end of the year.

### The ERMS SR Process and Significant Developments

The most significant development to report is the signing of a Research Agreement with BHP Billiton in early September 2006 for the continuing development of our ERMS SR technology. Under the agreement BHP Billiton is providing funds for:

- *The commissioning and operation of the equipment designed to prove Austpac's proprietary continuous metallisation process, which was then in the final stages of construction at the Newcastle plant.*

This process reduces iron oxide pellets, produced by the Company's EARS acid regeneration process, to a Direct Reduced Iron pellet ("DRI"), thereby transforming a waste product into a valuable co-product complementing our high grade "ERMS SR" synthetic rutile. As recently announced, the equipment has now been commissioned using EARS oxide pellets and operations are underway. A number of refinements have been made to the equipment to improve its operation, and it is expected that the trials will be successfully concluded during November 2006.

**Austpac Resources N.L.** is an Australian listed minerals technology company and emerging synthetic rutile producer. The ERMS SR process produces high grade synthetic rutile, a preferred feedstock for titanium dioxide pigment production. The EARS process regenerates hydrochloric acid from waste chloride streams, as well as producing a valuable metal pellet co-product. Austpac also has processes for agglomerating fine high-titanium minerals, the direct reduction of iron ore, and the separation of minerals for titanium pigment feedstock.

- Additional modelling of the proprietary continuous leach vessel that will form part of the proposed ERMS SR Demonstration Plant planned for Newcastle.

A consultant specializing in dynamic fluid flow modelling has been commissioned to undertake the computer simulation of the leach vessel, and a large cold model of two sections of the vessel is under construction at the Newcastle plant. This work is also should be completed during November.

- A review and update of the capital cost estimate for the Demonstration Plant

The instrumentation and electrical control systems, major vessel designs and equipment lists for the Demonstration Plant have been reviewed and updated and quotes will be incorporated into the cost estimate during November.

- An independent concept level cost study to obtain updated capital and operating costs for a commercial scale ERMS SR plant.

Twelve consulting groups and equipment suppliers have been selected and have been commissioned to prepare the capital cost estimates for the conceptual study of a large ERMS SR plant. They are using Austpac's process flow diagrams and equipment design concepts, and we have requested that the estimates be completed by the end of November. The estimates will be collated by Austpac and its consultants as they are received, and while our target date is still November, the high demand for engineering services in the resources sector may delay the final report until December.

Because the BHP Billiton Research Program is of paramount importance to Austpac, our engineering team, led by John Winter, is fully committed to this program to ensure its success, and significant work on other programs or processes has been deferred.

## **EARS Acid Regeneration and Iron Metallisation Processes in the Iron and Steel Industries**

As previously reported to Shareholders, bench-scale testwork in 2005 resulted in the invention of an exciting new process to reduce the iron oxides generated by the EARS acid regeneration process to iron metal pellets, and a preliminary patent application was lodged in June of that year. The iron pellets are an ideal high grade feedstock for the electric arc furnaces used in steel making and market enquiries indicated they will command a premium price compared to the lower grade scrap iron generally used. Subsequent work during 2006 has refined this process, and the final PCT (worldwide) patent application was lodged in June 2006.

While Austpac plans to include the metallising step in the EARS plant that will form part of the Newcastle ERMS SR Demonstration Plant, it was decided to construct a smaller, stand-alone metallising unit at our pilot facilities in Newcastle to demonstrate the process on a continuous basis. As described above, the equipment has been commissioned and operation is underway utilizing EARS iron oxide pellets.

Once the BHP Billiton Research Program is completed, the new equipment will be used to demonstrate the process to the iron and steel industries, where there are two immediate applications:

- Regeneration of pickle liquor and recovery of iron lost during the steelmaking process

The EARS process has previously been used to regenerate hydrochloric acid from spent liquor generated during steel pickling, and the new step will recover the iron as pellets rather than being lost. However, during steelmaking iron is lost as mill scale and as dust from electric arc furnaces. This iron can be recovered by adding the waste oxides to the pickle liquors and processing them through a dedicated EARS plant. Preliminary testwork has demonstrated that it is feasible to economically recover one tonne of acid and 1.6 tonnes of iron pellets from each tonne of spent pickle liquor and 2 tonnes of waste mill scale and/or baghouse dust. Our process has major positive environmental implications as baghouse dusts are generally regarded as a hazardous waste with high disposal costs.

Discussions have been held with interested parties from the steel industry, which have supplied samples of spent pickle liquor, mill scale and arc furnace dust for ongoing testwork programs. Technical staff under the direction of John Winter have been involved in iron chloride pelletizing operations to test the waste iron addition concept on a larger scale. This work will continue next quarter in conjunction with steel groups as time permits, with the aim of forming commercial alliances to commercialise our EARS process in the future.

- *The direct reduction of iron ores*

Preliminary work has indicated Austpac's reduction process is applicable to iron ore fines, and this will be confirmed once the continuous test rig has completed the test program presently underway for BHP Billiton on EARS oxide pellets. We have acquired a sample of hematite iron ore fines to test this application and once demonstrated in the test rig, we will commence discussions with interested parties in the iron ore industry. Larger scale metallising trials will be possible in the EARS section of the ERMS SR Demonstration Plant. The commercial implications for a new process that adds value to iron ore are very significant.

## **FINE MINERAL AGGLOMERATION**

As previously reported the fine mineral fluid bed agglomerator was successfully used to produce acceptably-sized "Hi-Ti" pellets from a high grade fine mineral concentrate. Only limited work was undertaken on the apparatus this quarter because of the commitment to the BHP Billiton Research Program. It is our intention to undertake further work on agglomeration, especially on fine ERMS SR made from WIM 150 ilmenite in the future.

## **GOLD EXPLORATION ACTIVITIES**

Gold programmes in China are progressing with ongoing negotiations for an agreement to replace the preliminary agreement signed by Austpac earlier this year for the exploration for sulphide gold mineralisation beneath existing oxide gold mines. Considerable effort has been directed during the quarter to resolving the legal obligations of foreign parties seeking to invest in mineral exploration and development in China. The negotiations have been assisted by a third party which has indicated an interest in funding the initial exploration programs, and whose representatives have visited China with Austpac several times during 2006. We are focussed on completing a commercial arrangement that will allow the evaluation of multiple gold projects while meeting the requirements of all parties in compliance with appropriate laws and regulations of the PRC. However, we expect to conclude the formal agreements during the coming quarter.

Technical activities during the quarter included petrological studies conducted on selected rock samples to assist the understanding of the geological setting of the known oxide-gold resources. In addition, geochemical analyses have provided useful data on the association of trace and pathfinder elements within mineralised structures and lithologies.

## **EXPLORATION LICENCE 4521 – HORSHAM JOINT VENTURE**

During the quarter Australian Zircon N.L. (AZC), which may earn an 80% interest in the WIM 150 project by completing a bankable feasibility study, undertook a review of previous drilling data to establish zircon distribution within the WIM 150 deposit. This is allowing AZC to design a drilling program within the core of the deposit to confirm the older exploration data as the first step in establishing a JORC code compliant resource estimate. AZC advises that the drilling program will be undertaken during the coming quarter, and Austpac has been assisting AZC to obtain approvals for this program.

The WIM 150 project comprised two Exploration Licences; EL 4521, which covered the key areas of the deposit, and EL 4532 covering very small areas of Crown Land within some of the river courses. The Victorian Department of Primary Industry (DPI) has now amalgamated EL 4532 and EL 4521, simplifying the tenement holding with one Exploration Licence.

*NOTE: This report is based on and accurately reflects information compiled by M.J. Turbott who is a Fellow of the Australasian Institute of Mining and Metallurgy and a member of the Australian Institute of Geoscientists and is a competent person as defined in the Australian Code for Reporting of Identified Mineral Resources and Ore Reserves.*