

31 January 2007

## QUARTERLY REPORT TO 31 DECEMBER 2006

### HIGHLIGHTS

- The BHP Billiton funded Research Agreement program to continue the development of the Company's ERMS SR technology for the production of high grade synthetic rutile and a direct reduced iron co-product (DRI) is essentially complete. Austpac is pleased with the positive results obtained, and is preparing formal reports on the metallisation and continuous leaching test work, the revised costs for the Demonstration Plant, and the capital and operating costs for a large commercial plant. It is expected BHP Billiton will be in a position to decide on the next steps in the first quarter of 2007.
- Discussions were held with steel companies regarding test work using the EARS process for recovery of iron and hydrochloric acid from waste products produced during the steel making process. One group is interested in a collaborative program and this concept is now well advanced, with a positive outcome expected during the first quarter of 2007.
- In December a three-party agreement was signed by Austpac, Archipelago Resources PLC, and the government-owned China Guangxi Gold Company (CGGC), to form Cooperative Joint Venture (CJV) to explore for and develop any economic sulphide gold mineralisation discovered at a number of mines and prospects in the Guangxi Zhuang Autonomous Province (Guangxi) and Yunnan Province in southern China. Formal documentation for the CJV is expected to be completed this quarter, and initial drilling beneath one of the mines will commence once the business licence is issued
- A placement was completed in November 2006 for 15,000,000 fully paid ordinary shares at 7 cents each, raising \$1,050,000 for working capital.

### THE ERMS SR PROCESS AND THE BHP BILLITON RESEARCH PROGRAM

During the quarter Austpac's technical team were fully occupied with the BHP Billiton-funded ERMS SR technology development program under the Research Agreement signed with BHP Billiton in early September 2006. This program, which has progressed well, comprised four main activities:

**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.

- *The commissioning and operation of equipment designed to prove Austpac's proprietary fluid bed reduction process (metallisation).*

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. Patent applications to protect this new technology are progressing in a number of countries.

The equipment was operated between late October and December 2006 using both EARS oxide pellets and other iron oxides in a number of test runs. Metallisation of the iron was achieved with both of these materials with the equipment operating in batch mode. We are planning a second round of testing during the first quarter of 2007, which may include building a larger scale unit prior to incorporating the metallising technology into the EARS section of the proposed Demonstration Plant at Newcastle. We are now confident that our new process is effective and that it will add significant value to a commercial ERMS SR plant.

- *Additional modelling of the proprietary continuous leach vessel planned for the ERMS SR Demonstration Plant.*

A proprietary vessel was designed to leach ilmenite continuously; ilmenite and acid are fed into the vessel and ERMS SR and iron chloride liquor is discharged on to a filter for final processing. Other synthetic rutile processes remove iron in batch operations. Patents over this technology are at the examination stage in selected countries.

A specialist consultant was commissioned to undertake dynamic fluid flow modelling using computer simulation of the leach vessel, and this work was completed in December 2006.

Two sections of a "cold" model of the vessel were built on the end of the process tower at the Kooragang Island test facilities. This was tested in December 2006 and flow rates of the liquids and the solids were measured. Several modifications were made to the vessel, with final test runs in January 2007, and we now are confident that a full sized vessel will maintain desirable "plug flow" characteristics during its operation in the Demonstration Plant.

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

The flow sheets for the proposed 3,000 tpa ERMS SR Demonstration Plant were reviewed and quotes were received for the critical equipment during November and December 2006. This has been incorporated into a revised capital cost estimate for the Plant which is currently being reviewed. The estimate is confidential at this stage.

*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 were commissioned to prepare the capital cost estimates for the conceptual study of a large ERMS SR plant, based on Austpac's process flow diagrams and equipment design concepts. We requested that the estimates be completed by the end of November 2006, but the demand for engineering and mineral processing equipment services in the present resources boom delayed these estimates. We have now received the final quotes, and these are being collated into the required capital estimate by Austpac engineers and

outside consultants. Operating costs are being derived from the mass balances developed from the process flow sheets. These costs are also considered confidential at this time.

The BHP Billiton Research Program is essentially complete and Auspac is pleased with results obtained. Formal reporting will occur in February 2007, and it is expected that BHP Billiton will be in a position to decide on the next steps later in the quarter.

## **IRON & STEEL INDUSTRIES - THE EARS ACID REGENERATION AND IRON METALLISATION PROCESSES**

As reported in detail in the September 2006 Quarterly Report, Auspac's new process to reduce the iron oxides generated by the EARS acid regeneration process to iron metal pellets, has direct application in the iron and steel industry, both for the regeneration of pickle liquors and the recovery of iron lost during steel processing, and also for direct reduction of iron ores. Limited work was undertaken directly on these applications during the quarter as staff were committed to the success of the BHP Billiton Research Agreement as described above. Under that program Auspac constructed a small, stand-alone metallising unit at our pilot facilities in Newcastle, and this was operated using both EARS iron oxide pellets and iron ore fines. Further testing is planned during the coming quarter.

Meetings were held during the quarter with steel companies interested in using aspects of the EARS technology and samples of chloride, oxide and metal pellets produced by the process were analysed by these groups. We received positive responses, but the companies are aware that large scale testing is not possible until the EARS section of the ERMS SR Demonstration Plant is operational. Consideration is being given to building pilot scale equipment to undertake test work for these companies prior to the completion of the Demonstration Plant, and discussions are advanced with one group regarding a collaborative program. It is expected we will make significant advances in this regard during the first quarter of 2007

## **GOLD EXPLORATION ACTIVITIES**

During the quarter, Auspac signed an agreement with Archipelago Resources PLC and the government-owned China Guangxi Gold Company (CGGC) to form an incorporated Cooperative Joint Venture (CJV) to explore for and develop any economic sulphide gold mineralisation discovered at a number of mines and prospects in the Guangxi Zhuang Autonomous Province (Guangxi) and Yunnan Province in southern China.

The projects are located in the 'golden triangle' of China, a region hosting many gold deposits, including some containing over 1 million ounces. The golden triangle is considered one of the most prospective gold districts in the country. Mineralisation in this region is frequently structurally controlled and associated with domes and fault structures within Permo-Triassic host rocks. The gold deposits also frequently show an association with finer plastic or carbonate sediments and are commonly described as "Carlin type" after similar mineralisation in the Carlin trend in Nevada. The recently discovered 4 million ounce Jinfeng sulphide gold deposit, now being developed by Sino Gold, is located within this region.

Current operations at the mines are limited to near surface oxide ores processed by way of heap leach. However mining has exposed primary sulphide mineralisation, with samples assaying up to 6 g/t Au, and the projects may support both open pit and underground mining operations, subject to the design and construction of an appropriate processing plant(s) to treat the sulphide ore. The CJV also is intended to include the evaluation of additional mines and prospects owned or acquired by CGGC within Guangxi province.

Under the CJV agreement, Austpac and Archipelago will earn an 80% interest in any gold deposits discovered by the CJV, and the CGGC will hold the remaining 20%. Under a separate agreement between Archipelago and Austpac, Archipelago may earn a 40% interest in the CJV by spending A\$2 million, and has the right to earn a 60% interest in the four mines covered by the CJV by spending a total of A\$3.5 million on the projects. Austpac will then retain a 20% interest in the CJV and any resulting discoveries by contributing to ongoing expenditure. Austpac and Archipelago may withdraw from individual projects at agreed milestones and/or expand exploration to new projects brought to the CJV by CGGC.

The three parties to the agreement are currently completing due diligence on the package of exploration and mining tenements and finalising the formal contract to create the cooperative Joint Venture Company. This new company will then obtain all necessary statutory approvals and licences to allow the initial drilling programs to commence.

The CGGC is the subsidiary of the National Gold Company of the Peoples Republic of China responsible for the administration of gold mine development in Guangxi, the holder of many gold mining and exploration rights, and a major shareholder in a number of operating gold mines which are processing oxide gold ore.

Archipelago is a mining company listed on the AIM market of the London Stock Exchange, and is currently developing the 1.7 million ounce Toka Tindung gold deposit in Sulawesi, Indonesia, where production is scheduled to commence in the third quarter of 2007 at an initial rate of 150,000 ounces per year.

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

In December 2006 Australian Zircon N.L. completed a drilling program specifically targeting part of the WIM 150 core, which is the higher grade portion of the WIM 150 resource. The program comprised 27 air core drill holes which were planned with two objectives. The first aim was to twin several of the holes drilled in the 1980's by Wimmera Industrial Minerals to compare results and so validate the earlier drilling. The second aim was to obtain spatial information on the distribution of valuable heavy minerals. Snowden Mining Consultants assisted Australian Zircon in the design of the drilling program to ensure that any future drilling will provide for a JORC-compliant resource determination.

*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.*