AUSTPAC RESOURCES NL

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AUSTPAC'S ANNOUNCEMENT OF A WORLDWIDE JOINT VENTURE WITH TICOR MARKS A MAJOR MILESTONE FOR THE COMPANY. THE DEAL WILL FACILITATE THE RAPID COMMERCIALISATION OF AUSTPAC'S REVOLUTIONARY ERMS AND EARS MINERALS SANDS TREATMENT TECHNOLOGIES, ENABLING IMMEDIATE ACCESS TO THE HUGE INDIAN MINERAL SANDS MARKET. ACCORDINGLY, WE HAVE UPGRADED OUR SPECULATIVE BUY RECOMMENDATION ON AUSTPAC TO A STRONG BUY.

ASX Code: **APG**
Activity: **Development of mineral sands processing technologies**

OVERVIEW

Austpac began its corporate life as a gold exploration company, although in 1997 it decided to concentrate its resources entirely on its patented ERMS and EARS mineral sands processing technologies. Austpac has developed the technologies in-house and on a very modest budget. The revolutionary technologies allow for substantial value-adding, by upgrading ilmenite – an abundant although low value titanium mineral – at modest cost into a high value product known as synthetic rutile. This synthetic rutile is a primary feedstock used in the chloride process, which in turn is used to manufacture titanium dioxide pigment. This white pigment is the primary white colouring used in the manufacture of paint, plastics and paper.

In order to prove the viability of its technologies, Austpac negotiated a joint venture agreement with the Indian government during 1999 to build the first commercial plant in Orissa State. The company has just finalised lengthy negotiations with a number of potential project partners/financiers, announcing a worldwide joint venture arrangement with listed Australian mineral sands producer, Ticor. The deal will see Ticor meet all of Austpac's financing commitments, initially with respect to the Indian project, with each party holding a 37% stake and the Indian Government maintaining a 26% interest. The deal provides both companies with the opportunity to tap the enormous potential offered by the Indian mineral sands industry.

CORPORATE DETAILS

Last Sale Price:	$0.17	Year High/Low:	$0.22/$0.02
Issued Shares:	320M	Market Cap:	$54M
Avge Monthly T'over:	80.0M	Major Shareholder:	GIO (4.3%)

DIRECTORS' PROFILE

Alfred Paton, Chairman: Engineering background, with more than 50 years' business experience. Formerly MD and Chairman of Placer Pacific and Kidston Gold Mines, and a director of Placer Dome. He is currently Chairman of Centennial Coal and AuIron Energy.

Michael Turbott, Managing Director: Exploration background, with 29 years mining experience. Formerly a director and Vice President of Kennecott Explorations (Australia) and Chairman of Denham Coal Associates and a director of Denham Coal Management.

Harold Hines: 50 years experience in operations, development, management and consulting in the mineral sands and alluvial mining industry. He is Managing Director of the Mineral Sands Consultancy, which provides mine planning, construction and commissioning services.

AUSTPAC'S ERMS & EARS TECHNOLOGIES

Austpac has been processing ilmenite for over ten years and has developed two proprietary processes that have direct application to the mineral sands/titanium dioxide industry. The first is ERMS, which stands for Enhanced Roasting and Magnetic Separation, whilst the second is EARS, which stands for Enhanced Acid Regeneration System. The technologies have tremendous potential, have been developed in-house, and are patented and exclusive to Austpac.

How is titanium dioxide pigment produced and what are its uses ?

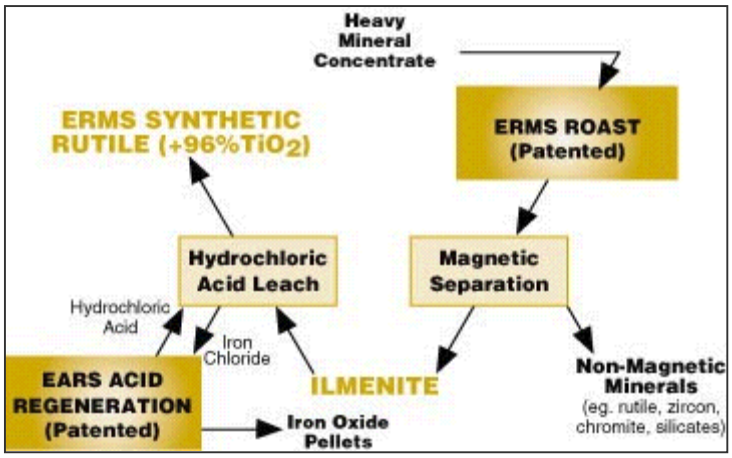
Titanium dioxide (TiO_2) pigment is the brilliant white pigment used in the paint and plastics industries, and to a lesser extent in the paper industry. TiO_2 pigments are superior to all other alternatives and are highly sought by paint and other manufacturers throughout the world. The global TiO_2 pigment market has grown over the last 20 years by 3% p.a. and is now worth around US$8 billion annually.

The chloride process, a more environmentally friendly process than the older sulfate process, produces over 60% of the world's TiO_2 pigment. The chloride process requires a feedstock with a high TiO_2 content (generally >85%). Most natural sources of high TiO_2 minerals such as rutile, are now exhausted, so chlorinatable feedstock is manufactured from ilmenite, a common mineral generally containing around 50% TiO_2. Upgrading can be achieved either by electrosmelting, which produces titania slag, or by chemical processing to produce the >90% TiO_2 material known as synthetic rutile.

Advantages of Austpac's ERMS/EARS technologies

Austpac's ERMS & EARS technologies, when combined, can produce the world's highest quality synthetic rutile (>96% TiO_2), at a claimed cost advantage of as much as 25%. The ERMS roasting process more effectively magnetises ilmenite than comparable methods, so it can be easily separated from other minerals. The EARS acid regeneration system reconverts iron chloride (a by-product of the acid leaching process) into hydrochloric acid at a significantly lower cost than the alternatives, whilst a plant is also up to 50% cheaper to build. Both technologies are also environmentally friendly and the end-products are free of the radioactive issues associated with alternate technologies. The successful treatment of ilmenite samples from over 60 deposits indicates that ERMS and EARS are the only technologies able to process any sort of ilmenite anywhere in the world. ERMS and EARS are potentially the most significant and efficient mineral sands technologies available today in the world market.

Figure 1: Simplified flow diagram of ERMS and EARS processes



How are Austpac's technologies being commercially developed ?

Austpac has two major initiatives through which its technologies are proceeding to commercial development. These are:

i. *South Africa:* in 1998, two technology licences were issued to Iscor Limited, the major South African steel producer, the first for the commercial application of Austpac's ERMS technology and the second for its EARS technology. The issue of the licences followed two years of testing by Iscor. The technologies will be used in conjunction with Iscor's US$300M heavy mineral project, which includes a mine, separation plant and a 250,000 tpa titania slag smelter, situated near Richards Bay in KwaZulu-Natal Province. These licences represent a strong vote of confidence in Austpac's technologies by a major international corporation. Licence fee payments, which we estimate to be worth at least $5M to Austpac, will commence upon project start-up after completion of an extended feasibility study.

ii. *India*: in mid-1998, Austpac signed an agreement with Indian Rare Earths Limited (IRE), the government entity that controls all mineral sand developments in India. This agreement involved the investigation of the feasibility of establishing an ERMS synthetic rutile plant in India, to be known as the AusRutile Project. IRE became interested in the ERMS process in 1997 when Austpac demonstrated that the technology could produce high-grade synthetic rutile from ilmenite, sourced from three substantial deposits on India's east coast. These deposits have an aggregate resource base of more than 120M tonnes of economically viable ilmenite, representing approximately 8% of the world's known ilmenite resources. They have the potential to support annual production of 500,000 tonnes of synthetic rutile for more than 70 years.

Figure2: Location of major Indian mineral sands deposits

Ticor backs Austpac's technologies through worldwide joint venture arrangement
Following lengthy negotiations with potential project partners and financiers, Austpac announced on July 4, 2000 a worldwide joint venture agreement with Australian listed mineral sands producer, Ticor Limited. The deal is a lucrative one for Austpac that will allow immediate development of the AusRutile Project in India. The two parties will have an equal share in the newly formed AusRutile India Private Limited joint venture company, which will hold the partners' 74% project stake, with IRE retaining its 26% interest. Under the deal, Austpac will receive a series of payments totalling $3M based on agreed development milestones being achieved. In addition, Ticor will provide loan funding for Austpac's share of the initial synthetic rutile plant. Importantly, if requested by Austpac, Ticor will also provide loan funding for Austpac's share of any future developments in India and elsewhere in the world.

This deal could be just the beginning in India
The Indian government's goal has been to attract chloride TiO2 pigment technology to India, with Austpac's technologies being the only feasible treatment option for processing this type of ilmenite. Austpac, IRE and Ticor will participate in a two-phased development:

- The proposed initial plant will be located at IRE's OSCOM facilities in Orissa state and will have an upgraded capacity of 15,000 tpa (instead of the 10,000 tpa capacity initially envisaged). Plant construction could commence in Q4 2000 once all statutory approvals have been received from the Indian authorities. First production could then commence in early 2002. Austpac has completed definitive testwork whilst and Brisbane-based Ausenco has undertaken a site-specific study for plant layout and capital costs, which it estimates at US$7M. The initial 15,000 tpa project could generate annual after-tax cashflows of US$2M, with a payback period of four years. This would generate an after-tax internal rate of return of over 15%.
- Upon successful demonstration of the plant, a 200,000+ tpa plant is planned for construction at an estimated capital cost of US$165M. This plant would generate forecast annual revenues of US$100M and pre-tax cashflows of more than US$50M. Estimated internal rate of return would be in excess of 30%.

Through its participation, Austpac will become a significant partner in the production of high volumes of high-grade feedstock for the TiO2 pigment industry for at least the next 20 years. Looking ahead, there is potential for the development of additional synthetic rutile plants incorporating Austpac's patented technology to develop other minerals sands deposits throughout India. Further expansions could be based on the OSCOM resource or on greenfields plants exploiting the large, undeveloped resources held under lease by IRE in Andhra Pradesh and Tamil Nadu.

Potential for Austpac technology to treat Murray Basin minerals sands
In recent years, minerals sands exploration activity in the Murray Basin of eastern Australia has undergone a resurgence. This is primarily as a result of the discovery of coarser grained deposits compared to the finer grained, uneconomic deposits, which have been known for years in the basin. These Murray Basin deposits are probably the last significant resource of premium ilmenite in Australia and could potentially attract a significant price premium. When traditional magnetic separation is used to process the sands, the resulting ilmenite generally contains >1% Cr2O3, which means that the ilmenite concentrate is either unsaleable, or at best cannot command a premium price. Austpac has undertaken ERMS testwork for a number of Murray Basin exploration companies and its technology has been shown to be highly effective. Austpac's aim is to licence its technology to these emerging producers, which in turn could generate significant returns over the medium-to-longer terms. In its most recent quarterly report to shareholders, Austpac has indicated that it is pursuing a major opportunity for production of synthetic rutile in the Murray Basin, and will undertake a major testwork programme at its Newcastle pilot plant in Q4 2000.

RECOMMENDATION

Austpac deserves commendation for its persistence over recent years in its single-minded determination and focus on the development and refinement of its mineral sands processing technologies. The company is now positioned at a very exciting stage, with excellent short to long-term business opportunities emerging in India and an alliance with Ticor, one of Australia's leading mineral sands producers. Austpac is set to reap the rewards of its persistence for many years to come. Our high regard for the company and its management team has been reinforced by the excellent joint venture deal with Ticor, which indicates that the company is finally receiving the market and corporate recognition that it deserves. Based on these developments, our assessed fair value for Austpac is between $0.40 and $0.50 a share. Accordingly, we have upgraded our recommendation on Austpac to Strong Buy, as we believe it possesses excellent medium to long-term growth prospects.

Authorised by Andrew Sekely – Manager Equities, Sydney August 16, 2000

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