Austpac Resources NL

Commercialisation of Syn-Rutile process adds value

31 March 2004

$0.04

Short Term	Long Term
BUY	**BUY**

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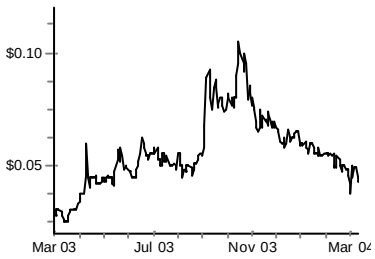
Price Performance



Security/Capital Details

ASX Code	APG
Market Cap	32.8 $M
Issued Shares (dil)	728.4 M
Avg Mth T'over	9.63 M
12 Mth High – Low	$0.11 - $0.03

Key Data/Ratios – FY 2004

EBITDA / Sales	N/A
EBIT / Sales	N/A
Debt / Equity	0.0%
Interest Cover	-19.2 x
ROE	-4.4%
EPS Growth	15.8%
DCF	$0.10
12 Mth Price Target	$0.10

Recommendation

Austpac Resources is commercialising its super-high-grade synthetic rutile process (ERMS SR) with a feasibility study for construction of a 30,000 tpa SR plant to treat North Stradbroke Island ilmenite under a MOU to source feed ilmenite and market the SR product.

APG has ample scope for adding to our base valuation of $0.10/share which considers the 30,000 tpa SR plant, through options to build further SR plants, and participate in others through its MOU with ILU.

Key Points

- Austpac Resources NL (APG) is an Australian listed minerals technology company. APG's processes include technology to transform ilmenite into super-high-grade synthetic rutile, which is a preferred feedstock for titanium dioxide pigment production.
- Their Enhanced Roast and Magnetic Separation Synthetic Rutile (ERMS SR) technology is a robust process for upgrading low grade, ilmenite into a super-high-grade synthetic rutile with TiO2 content between 97-98%, compared to average SR grades of 88-94% TiO2. Rather than compete with existing synthetic rutile markets the super-high-grade product will likely compete in the upgraded slag market, and command a premium price to conventional synthetic rutile product.
- The process separates and removes penalty elements and minerals including chromite and radio-nucleides more efficiently than competing processes. The iron content of the ilmenite feed is separated into a saleable iron pellet product, removing the waste disposal issues of most other synthetic rutile processes.
- After a decade of development and pilot teswork APG plans to build a 30,000 tpa synthetic rutile plant to treat low grade ilmenite produced as a byproduct by mineral sands mining operations on North Stradbroke Island.
- We believe that the ERMS SR process will have wide application because of its abiilty to accept a wide variety of ilmenite feed. It has sucessfully treated Murray Basin ilmenites,East Australian ilmenites including that from North Stradbroke Island, as well as more than eighty ilmenites from around the world
- APG has signed a Memorandum of Understanding (MOU) with Consolidated Rutile Limited (CRT) to take about 70,000 tpa of ilmenite feed, and a MOU with Iluka Resources Limited (ILU) to market the super high grade synthetic rutile.
- APG plans to expand their pilot plant and complete a bankable feasibility study, requiring capital of approximately $5m, before progressing to the full scale 30,000 tpa plant that is anticipated to require capital of about $49m including contingencies.
- Our base valuation is conservative at $0.10/share as it only considers the 30,000 tpa SR proposal. We believe that the scope for APG to be involved in construction of further plants, in which it holds equity, will provide significant additional value for APG.

Year to June	NPAT (Rep) $M	NPAT (PAbs) $M	EPS (PAbs) c	PER x	CFPS c	P/CF x	DPS c	Div Yld %	Franking %
2003a	-0.7	-0.7	-0.2	-28.0	-0.2	-28.9	0.0	0.0	0
2004e	-1.0	-1.0	-0.2	-31.3	-0.2	-28.1	0.0	0.0	0
2005e	-2.3	-2.3	-0.3	-13.2	-0.3	-14.5	0.0	0.0	0
2006e	2.4	2.4	0.3	13.0	2.1	2.1	0.0	0.0	0

VALUATION

30,000 tpa ERMS Synthetic Rutile plant provides a base valuation.

Our valuation of Austpac Resources NL (APG) is based on its proposal to build a 30,000 tpa Enhanced Roast and Magnetic Separation process Synthetic Rutile (ERMS-SR) plant that is to be fed by approximately 70,000 tpa of ilmenite sourced from Consolidated Rutile Limited (CRT)'s North Stradbroke Island operations.

We consider our base valuation of $0.10 per share is conservative as it is derived only upon valuation of APG's proposed 30,000 tpa ERMS SR plant development with small values attributed to the two Low Temperature Roast (LTR) projects being undertaken for other resource companies.

The valuation below assumes raising funds to complete the bankable feasibility study for its proposed 30,000 tpa synthetic rutile plant at current share price ($0.04). With anticipated news of a successful outcome to the BFS we estimate that about $18 million of new equity might be required for development and might be raised at $0.07. We have fully diluted our valuation for both raising exercises.

Our valuations of the LTR projects are based on dcf values of the estimated royalty payments from each project.

DCF VALUATION @ 10%	Base Value at 30 June 04	
Yr Ending Dec	**A$m**	**A$ps**
ERMS SR Project 30,000 tpa	49.9	0.07
LTR Project (s)	4.4	0.01
EARS Project	0.5	0.00
Corporate Costs Capitalised	-4.9	-0.01
Hedge Book	0.0	0.00
Future Tax Benefits	5.0	0.01
Exploration Portfolio	0.6	0.00
Franking Credits	0.0	0.00
Cash	20.4	0.03
Debt + Cnotes	0.0	0.00
Minorities	0.0	0.00
Additional Capital – Dilution	0.0	0.00
Total Valuation – Fully Diluted	**75.8**	**0.10**

Source: WilsonHTM

At a share price of 4.1 cents, APG is trading on a forecast cashflow multiple of less than 3x when only considering the 30,000 tpa ERMS SR plant.

Expansion with 60,000 tpa SR plant adds further value.

The base valuation however does not take into account the option value of the case(s) where APG could expand the plant by building a 60,000 tpa plant alongside to bring total capacity up to 90,000 tpa. The 60,000 tpa plant is estimated to require an additional $57million of capital to develop according to APG estimates. The dcf value of the 60,000 tpa SR project would add $138 million to APG if fully owned and funded.

We estimate that APG would have to contribute a further $15m in new equity, which if we very conservatively assume is raised at $0.07/share would result in a share valuation of approximately $0.30 per share.

Under the MOU recently signed, Iluka Resources Ltd (ILU) has an option to build, under licence, within 2 years an ERMS SR plant at 100,000 tpa capacity, and in which APG would have a 10% carried interest in each plant. Using the combined dcf values of the 30,000 tpa plant and the 60,000 tpa plant we estimate a 10% carried interest to be worth at least $22m to APG.

Assumptions

We consider that our assumptions of foreign exchange rates and commodity prices are reasonable. Individual commodity price and exchange rate assumptions have been varying rapidly over the past year.

Production	June	2002a	2003a	2004e	2005e	2006e	2007e
Ore Treated	000t	0.0	0.0	0.0	0.0	70.0	70.0
Sales							
Synthetic Rutile	000t	0.00	0.00	0.00	0.00	30.00	30.00
Iron Pellets	000t	0.0	0.0	0.0	0.0	23.1	23.1
Prices	**Dec HY**	**2002a**	**2003a**	**2004e**	**2005e**	**2006e**	**2007e**
A$/US$		0.524	0.585	0.715	0.660	0.650	0.650
ERMS Syn Rutile	USD/t	354	334	450	450	450	450
Fe pellets	AUD/t	202	207	211	215	220	224
Ilmenite (feed)	AUD/t	0	0	0	30	30	31
Coal feed	AUD/t	0	0	0	54	54	55
Electricity	AUD c/kWh	0	0	0	4	4	4

Source: WilsonHTM

ERMS SR is an ultra-high grade product.

The assumed price for ERMS-SR at USD450/tonne is based on the ultra-high grade of the ERMS synthetic rutile product. At a grade of 97%-98% (using North Stradbroke Island ilmenite as feed) the ERMS SR competes well with upgraded slag (UGS) product. Recent prices for UGS delivered into USA have been of the order of USD490/tonne for 95.5% TiO2 product, which would translate into fob Australia prices of the order of USD450-460/tonne for UGS.

In the current market, UGS product volumes are normally contracted for 3 – 5 years on a fixed price basis subject to an escalation factor. On that basis, we expect that APG would consider implementing currency hedging on a similar basis to the Australian coal industry to protect margins on its proposed Australian plant.

The ERMS SR is an ultra-high grade product. Its pricing should place it at the upper end of the range of SR prices as its TiO2 grade of 97% is the highest purity grade of any current process, and has been based on market responses to ERMS SR sample.

Iron pellet product priced by market indications.

Similarly the anticipated price of Fe pellet product is based upon market indications from sample source from APG's pilot plant.

The cost of acquiring the ilmenite feed is lower than average export values as the quality of the ilmenite and levels of chromite in the ilmenite concentrate have, prior to this process, rendered that concentrate difficult to sell.

As an example, Iluka's initial proposal for the Douglas deposit in the Murray Basin assumes no ilmenite sales for the early years as that ilmenite contains deleterious chromite, similar to the North Stradbroke Island material.

An ERMS SR plant is not energy feed specific, and can use a variety of different sources of energy (solid, liquid or gaseous fuels). It is anticipated the proposed 30,000 tpa plant will use coal and costs used herein are based on quotes received by APG.

SENSITIVITIES

The sensitivities to key assumptions are tabulated below.

Prices	unit change	NPAT +/- $m	EPS +/-cents	EBITDA +/- $m	CFPS +/-cents	Valuation +/-cents
AUDUSD	+/- USD 5c	-1.2	-0.2	-1.2	-0.2	-0.5
Syn-Rutile price	+/- USD 50/tonne	1.0	0.1	1.0	0.1	1.8
Fe pellet price	+/- AUD 20/tonne	0.5	0.1	0.5	0.1	0.4
Ilmenite feed cost	+/- AUD 5/tonne	-0.7	-0.1	-0.7	-0.1	-0.6
Coal cost	+/- AUD 5/tonne	-0.2	0.0	-0.2	0.0	-0.2
Electricity cost	+/- AUD 2 cents/kWh	-0.3	0.0	-0.3	0.0	-0.2

Source: WilsonHTM

The key sensitivities of the process are as expected, to the AUDUSD exchange rate and the price of the products, the premium synthetic rutile, the iron pellet product and the ilmenite feed costs.

EBIT CONTRIBUTIONS

Once the project is constructed it will become APG's major source of income, until further developments. The EBIT contribution from the project rises to approximately $6 million over two years.

Unit cash operating costs of about AUD 240 per tonne of SR are comfortably covered by a forecast cash margin of AUD 470 per tonne of SR. Even removing the benefit to the margin of the DRI iron pellets of about AUD 165 per tonne of SR gives a residual margin of AUD 305 per tonne of SR.

CASH FLOW FORECASTS

The cash flows generated by the 30,000 tpa SR plant return about $10 million per year before financing. The project shows a steady forecast cash flow that services the finance costs within 4 years.

Summary Cash Flows	2003a	2004e	2005e	2006e	2007e	2008e	2009e
Cash from Operations	(1.6)	(0.6)	(1.3)	16.7	17.4	17.4	15.3
Cash from Investment	1.5	(0.9)	(51.2)	(2.4)	(2.4)	(2.4)	(2.2)
Operations and Investing	**(0.1)**	**(1.5)**	**(52.5)**	**14.3**	**15.0**	**14.9**	**13.1**
Cash From Financing	(0.1)	21.7	33.9	(13.0)	(14.5)	(13.4)	(1.4)
Net Cashflow	**(0.3)**	**20.2**	**(18.6)**	**1.3**	**0.5**	**1.6**	**11.7**
Cash at end of period	0.2	20.4	1.8	3.1	3.6	5.2	16.8

Source: WilsonHTM

Initially APG intends to place $5m of new equity with investors to enable it to complete its bankable feasibility study, and upon successful conclusion of that, to subsequently commit to construction of the ERMS SR plant, which we have assumed will be located in Qld.

Our estimates suggest that APG may need to raise a further $18m of new equity to contribute to the capital cost of the ERMS SR plant, which is currently estimated to require $49m to construct over a 12-15 month period .

BALANCE SHEET & RATIO ANALYSIS

The effect on the balance sheet, as with most small companies commencing new projects, is to initially heavily gear the balance sheet, particularly upon commissioning of plant.

BALANCE SHEET	June	2003a	2004e	2005e	2006e	2007e	2008e	2009e
Cash	A$m	0.2	20.4	1.8	3.1	3.6	5.2	16.8
Total Assets		12.8	34.7	85.6	74.6	64.7	55.9	48.1
Debt		0.3	0.0	35.8	25.2	12.2	0.0	0.0
Convertible Notes		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equity		11.7	32.7	30.3	32.7	36.3	40.7	45.5
Debt / Equity		2.2%	0.0%	118.0%	76.9%	33.6%	0.0%	0.0%
(Debt+C/N) / Equity		2.2%	0.0%	118.0%	76.9%	33.6%	0.0%	0.0%

Source: WilsonHTM

However as shows in the cash flow summary, the debt profile rapidly reduces to more comfortable levels.

Ratio Analysis	June	2003a	2004e	2005e	2006e	2007e	2008e	2009e
EBIT/Assets		-5.5%	-2.7%	-0.5%	7.7%	10.2%	13.7%	18.4%
NPAT/Assets		-5.7%	-2.8%	-2.7%	3.2%	5.5%	8.8%	12.9%
NPAT/Equity		-6.2%	-3.0%	-7.7%	7.3%	9.8%	12.1%	13.6%
EV/EBITDA		(30.3)	(13.7)	(164.1)	3.1	2.4	1.6	0.9
EBIT/Interest		(33.4)	(17.3)	(0.2)	2.5	4.3	12.5	0.0
EBITDA/Interest		(32.1)	(16.7)	(0.2)	7.6	11.4	28.7	0.0
Debt/Cashflow		(2.3)	(0.3)	0.0	2.5	1.7	0.8	0.0
(Debt+CN)/Cashflow		(2.3)	(0.3)	0.0	2.5	1.7	0.8	0.0

Source: WilsonHTM

Cashflow coverage of interest appears comfortable throughout the debt repayment with 5.9x EBITDA / Interest from 2005e.

The Debt / Cashflow ratio also decreases quickly from its initial 2.5x in 2006e indicating a strong ability to service debt funding that is required for project development.

CORPORATE REVIEW

Austpac Resources NL (APG) was originally incorporated in NSW on 12/10/1981 as Absolajur NL. Its name was changed to Austpac Resources NL on 22/05/1985 and to Austpac Gold NL on 17/03/1986. At the Annual General meeting on 20/11/1997, the company name reverted to Austpac Resources NL to reflect the broader commodity focus of the company.

Maintained focus on developing processes to beneficiate low grade ilmenites.

Austpac Resources N.L. (APG) is an Australian listed minerals technology company. APG's processes include technology to transform ilmenite into high grade synthetic rutile, which is a preferred feedstock for titanium dioxide pigment production.

Their goals were initiated in about 1988, when APG sought to resolve issues of low TiO_2 grade and included impurities in ilmenites from Westport New Zealand. APG initially established a facility at the University of Newcastle aimed at proving technical processes, for upgrading and processing otherwise difficult to treat ilmenite, that are commercially viable. In the mid 1990's APG relocated its facilities to Kooragang Island, Newcastle, where a substantial pilot plant has been established for processing ilmenite and other minerals.

The result is that low grade or impure ilmenite mineral that may have previously been unsaleable, is now able to be upgraded into saleable product, either as an upgraded ilmenite, or as synthetic rutile.

The processes APG has developed can also be used to beneficiate a range of heavy minerals, as well as to process waste chloride streams from a number of industrial processes.

APG has stated that its prime objective remains to enter the synthetic rutile business as a participant, rather than just a technology provider. The ERMS SR process will only be used in projects in which APG has a participating interest.

Currently APG's processes are being used in or evaluated for three separate areas of the minerals industry, in nickel processing, iron sands upgrading for the steel industry, and in the mineral sands industry. We expect that with further consideration several of APG's processes will achieve wider technical, as well as geographic applications.

At present Austpac processes are being either evaluated, or used, by each of the three mineral sand companies in the Murray Basin, Iluka, Bemax and Southern Titanium. Successful application of each the respective APG processes will position it in a position with exposure to the whole of the Murray Basin mineral sands industry.

Developed and patented processes.

The processes that APG has evaluated and developed, and patented where applicable, include:

LTR (Low Temperature Roast)

The low temperature magnetising roast process operates at less than 650 degrees Celsius (650°C) using a fluid bed roaster, which magnetically enhances the ilmenite suitable for magnetic separation of gangue minerals while at the same time maintaining the ilmenite in a condition suitable as a feedstock for the sulfate pigment process.

HCl leaching

The HCl leach processes have been developed using batch, and continuous, leach vessels. A feature of the leach process is the efficient yet gentle action that reduces attrition and slimes generation. The continuous leach (patent pending) represents a break-though in leach technology which is very capital efficient and can be applied to a range of applications outside mineral sands.

EARS (Enhanced Acid Regeneration System)

The EARS process involves the regeneration of HCl acid from iron chloride ($FeCl_2$) using a fluid bed roaster. It uses a two-stage process to regenerate hydrochloric acid (HCl) to 25% strength, and to reduce iron chloride ($FeCl_2$) to iron pellets by pyro-hydrolysis. The primary purpose that the process was designed for was to process iron chloride solutions generated by the ERMS SR process. Other metal chlorides can be processed using the EARS technology. Efficient recovery of hydrochloric acid is critical for the sustainabilty of hydrometallurgical processing

It can use a range of fuel types, has low capital cost requirements, and is energy efficient.

ERMS (Enhanced Roasting & Magnetic Separation)

The ERMS process is a high temperature magnetising roast in a fluid bed roaster at more than 750°C.

ERMS-SR (Enhanced Roasting & Magnetic Separation – Synthetic Rutile)

The ERMS SR process is a high temperature oxidation then reduction process using fluid bed roasters, at up to 995°C.

Several APG processes are now being commercialised.

APG has been working for over 15 years developing, and piloting its beneficiation processes.

A number of agreements have been evaluated over the past few years and in recent months several have reached stages indicating that that the commercialisation of a number of APG's beneficiation processes are imminent.

Memorandum of Understanding signed with CRT & ILU

ERMS-SR supply MOU signed with CRT.

In October 2003, APG announced the signing of a MOU for an ilmenite supply arrangement with Consolidated Rutile Limited (CRT). It is subject to the successful completion of a Bankable Feasibility Study and upon obtaining finance. CRT would supply 70,000 tpa of North Stradbroke Island Ilmenite to APG as feedstock for a 30,000 tpa ERMS-SR plant to be built by APG.

Offtake MOU signed with ILU to sell synthetic rutile.

A further memorandum of understanding has been signed with Iluka Resources Limited for ILU to purchase all of the synthetic rutile from APG's plant subject to satisfactory commercial and long term contractual arrangements, including a minimum price commitment by ILU, to be agreed at the end of the bankable feasibility study (the "MPC contract").

The ilmenite from North Stradbroke Island is low in TiO_2 content and the concentrate has a chromite content that is otherwise difficult to separate and is noted as a penalty mineral. Murray Basin ilmenites also have a high chrome content.

Previous test work at APG's pilot plant has demonstrated the ability to produce 97% TiO_2 synthetic rutile from CRT's ilmenite. A successful study outcome would be followed by plant construction with a goal of commencing production during 2006.

ILU may gain exclusive access to the technology.

The agreement also provides for ILU's further engagement with the ERMS SR technology:

a) From the date signing the MPC contract, ILU will be granted a non-exclusive licence to use the ERMS SR technology to build and construct future ERMS SR plants.

b) ILU will have an equity option, exercisable upon signing the MPC contract, to acquire a 10.01% interest in APG at a 30% premium to market. Upon doing so, ILU's licence over APG's ERMS SR technology becomes exclusive subject to the following conditions:

c) After the construction and successful commissioning by APG, of its SR plant:

- for a period of twelve months after successful commissioning, ILU will have the right to negotiate to acquire a controlling interest in the SR plant, and to participate in any expansion of that plant.
- assuming ILU has not exercised the equity option, ILU's licence over the ERMS SR technology will become exclusive if ILU commences a bankable feasibility study for an ERMS SR plant of at least 100,000 tpa capacity within 12 months of the successful commissioning of APG's 30,000 tpa plant, with the period of exclusivity commencing from the date ILU actually commences the BFS, subject to the following.

i) Where ILU obtains an exclusive licence of the ERMS SR technology, that exclusivity is conditional upon ILU, within 12 months of commissioning of APG's 30,000 tpa plant, declaring that it intends to conduct a BFS to construct a 100,000 tpa plant, and thereafter completing a BFS and commencing construction of the new ERMS SR plant within 2 years of the declaration. For the ERMS SR technology to remain exclusive to ILU, ILU must build a 100,000 tpa ERMS SR plant every 5 years thereafter. We understand that this rate of expansion of SR capacity is in line with ILU's expectations of market growth.

ii) APG will be entitled to a 10% free carried interest and may acquire a 20% participating interest in all future ERMS SR plant built by ILU, irrespective of whether ILU holds an exclusive or non-exclusive licence for the ERMS SR technology.

d) ILU is not under obligation to take the equity option in APG.

APG may build its own plants.

Even though ILU may obtain exclusive licence to the technology, APG may build ERMS SR plants in its own right, as it deems may be commercially attractive.

EARS Process

Inco evaluating EARS process for Goro nickel laterite project.

In November 2003, Inco announced it is evaluating APG's EARS process for use in its large Goro nickel project in New Caledonia. We understand that Inco believes it may make useful capital cost savings as well as process efficiency gains through EARS.

Testwork is currently under way at APG's pilot plant at Kooragang Island, Newcastle to evaluate the EARS system for the pelletising and pyrohydrolysis of nickel chlorides using existing equipment. That work was successfully completed in December 2003, and Inco are evaluating the data and costs prior to moving to the next stage of the project. If Inco proceed the pilot plant will be modified to allow fully integrated testing of the EARS processes at Kooragang Island during 2004.

The significance for APG is a technical alliance with a major nickel producer, and the evaluation of a new industry application for APG technologies.

Agreement with Ticor re ERMS SR process.

In 2002, APG and Ticor Ltd (TOR) signed a non-exclusive technology licence agreement that replaced the exclusive world-wide agreement that had been signed in 2000. In the future should TOR initiate a project anywhere in the world that uses the ERMS SR process, they will fund all expenditure until completion of the BFS. If the project is developed, APG will be offered a 10% free carried interest and have option to contribute to a further 20% interest.

Should APG complete and commission its own ERMS SR technology based plant then TOR has a period of 10 years within which to exercise its right to use the ERMS technology in its own plant, else TOR's agreement falls away.

The agreement with ILU acknowledges the existence of the prior agreement with TOR. Otherwise both have similar terms and conditions in relation to APG's entitlements.

Low Temperature Roast process.

LTR technology for BeMax' Ginko deposit.

In April 2002 APG announced an agreement with Bemax Resources (BMX) to evaluate the use of the LTR process for upgrading the (Murray Basin) ilmenite in BMX' deposits. The LTR process has been chosen to upgrade the ilmenite for Gingko. APG is providing ongoing engineering services, and will be involved in the commissioning and initial operations phases. Final continuous pilot scale test work for detailed design has now been completed.

Ausenco has been awarded / designed a turnkey project for dry plant and roaster for BMX, and is now awaiting BMX obtaining its required financing for development.

APG is to receive a one-off licence fee upon construction of the roaster.

LTR technology for BlueScope Steel's New Zealand operations.

New Zealand Steel is currently constructing a 2.5 tph Low Temperature Roast test-plant at its Glenbrook Steel Works to recover and condition iron minerals that are currently lost in the mining operations at its Waikato North Head mine. The plant is in the final stages of commissioning and will be fully operational by the end of March 2004.

Implementation of the LTR process on a commercial scale should be rewarding for APG.

Evaluation project.

WIM150 mineral sands resource.

In October 2000 APG successfully tendered for title to an area containing the WIM 150 Extended minerals sands resource and other potential resources. The licence area was previously held by CRA, who struggled with the process requirements for very fine grained nature of the WIM150 resource. WIM150 comprised a global resource of 4,900 million tonnes of 2.2% total heavy minerals, including a core resource containing 750 million tonnes at 4.0% total heavy minerals. The average composition of the heavy mineral fraction is 31.6% ilmenite, 8.7% rutile and anatase, 11.6% leucoxene and 13.3% zircon.

APG's proprietary technologies will be evaluated for use to address the chrome removal and the fine grained character (38 - 75 micron) of minerals contained in the deposit.

Southern Titanium NL (STN) has agreed with APG for STN to earn an interest in the WIM150 project and resource. STN brings experience in treatment and extraction of fine grained heavy minerals. STN can earn a 80% interest in the WIM150 deposit by completing a bankable feasibility study over the project and joint venture. Development of the project would give access to a long term source of zircon. At this stage APG is achieving promising results from application of its own proprietary processes to the titanium minerals from WIM 150.

DIRECTORS PROFILES

Mr Terry Cuthbertson. ACA

Mr Cuthbertson is currently a non-executive Director of Montec International Limited and Open Telecommunication Limited. He was previously Group Finance Director for Tech Pacific Holdings Pty Ltd which generated over $2 billion in revenues from operations throughout the Asia-Pacific Region. From 1986 to 1995 he was a Senior Partner of KPMG, specialising in strategic and corporate advice to major corporations. Mr Cuthbertson brings extensive international corporate experience to Austpac. He was appointed a Director of Austpac Resources N.L. on 27 March 2001.

Directorships of listed companies: Montec International Limited (MTI), Open Telecommunication Limited. Former Directorships of listed companies: Integrated Investment Group Limited (IIG)

Mr Harold H Hines FAIMM

Mr Hines is the Managing Director of International Mineral Developments Pty Limited. Mr Hines has over 50 years' experience in operations, development, management and consulting in and for the mineral sands and alluvial mining industry. Since 1988, he has provided mine planning, construction and commissioning for significant major projects in India, Africa, New Zealand, Indonesia, USA and Australia. Mr Hines has been a Director of Austpac Resources N.L. since April 1996.

Mr Alfred Lampard Paton B.Eng, FAIM, MIE, MAusIMM, FAICD

Mr Paton is currently the Chairman of Hill End Gold Limited and a Director of CARE Australia. Mr Paton has an engineering background and has over 50 years' experience in business including the mining industry. From 1987 to 1990 he was the Managing Director of Placer Pacific Limited and Kidston Gold Mines Limited, and was Chairman of these companies from 1990 to 1994, when he also retired as a Director of Placer Dome Inc. Canada. Mr Paton has been Chairman of Austpac Resources N.L. since November 1997.

Directorships of listed companies: Hill End Gold Limited (HEG), Former Directorships of listed companies: Wiluna Gold Limited, Golden Shamrock Mines Limited, Auiron Energy Limited (AUY)

Mr Michael J Turbott - BSc (Hons), FAIMM, MAIG

Mr Turbott was formerly a Director and Vice President of Kennecott Explorations (Australia) Ltd, and was in charge of the exploration programs that led to the discovery of the Lihir gold deposit in Papua New Guinea and to the acquisition and initial development of the Gordonstone coal mine in the Bowen Basin, Queensland. His 36 years' experience in the mining industry has encompassed a wide variety of exploration and development projects in Australia, New Zealand, Papua New Guinea, Indonesia, Philippines, Canada and the USA. Mr Turbott has been the Managing Director of Austpac Resources N.L. since its formation as an epithermal gold explorer in 1985.

In 1988 Austpac became involved in the Westport ilmenite sand deposits in New Zealand. This led to the development of Austpac's proprietary ERMS roasting process to separate refractory ilmenite and, subsequently, to the patented EARS acid regeneration process. Under Mr Turbott's direction, since the mid 1990s Austpac has solely focused on its mineral sand technologies and has developed a proprietary continuous leaching process and specialist know-how in low temperature roasting and in the treatment of iron minerals as well as the ERMS SR process for the production of high grade synthetic rutile. Austpac's technologies are applicable to a wide range of mineral sand deposits and are now being commercialised.

TOP 20 SHAREHOLDERS

Top 20 Investors			
Investor	**Current Balance**		**% Issued Capital**
Christopher Leech	10,641,667		2.59%
Midnap Pty Limited	7,223,223		1.77%
J P Morgan Nominees Australia	5,571,990		1.37%
Prestcorp Pty Limited	5,500,000		1.35%
Anthony Prestia	4,950,592		1.22%
Kerry & Christine King	4,628,576		1.14%
Jankit Pty Ltd	4,571,435		1.12%
RK Deaton	4,526,501		1.11%
Minford Pty Limited	4,500,000		1.10%
<Ulanowicz Family S/F A/C>			
Michael Turbott	4,500,000		1.10%
Gary Koh	4,495,349		1.10%
Nicholas John Gaston	4,330,000		1.06%
Gold Coast Endoscopy Pty Ltd	3,231,002		.79%
Mark Thompson A/C			
Alfred Paton & Associates Pty Ltd	2,962,500		.73%
Mrs Elena Anna Claxton	2,934,108		.72%
Solomore Consulting Pty Ltd	2,700,000		.66%
G & J Paul Pty Limited	2,650,000		.65%
Mr John Rudd	2,600,000		.64%
Bahan Pty Ltd	2,512,910		.62%
Mr Michael John Smith	2,390,000		.59%
		Investors	
Total for Top 20	**87,319,853**	**37**	**21.44%**
Total other investors	319,956,102	3,989	78.56%
Grand Total	**407,275,955**	**4,026**	**100.0%**

PROJECT REVIEW

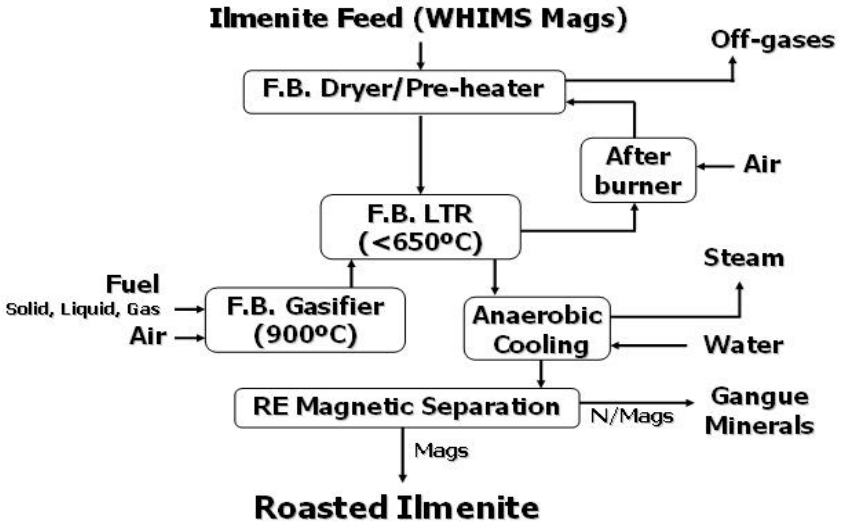
Austpac Resources has pursued the development and commercialisation of a number of mineral processes surrounding the beneficiation and upgrading of low grade or impure ilmenite mineral into saleable product, either as an upgraded ilmenite, or as synthetic rutile.

Since about 1989, AGP has been evaluating and has developed (and patented where applicable) several processes:

LTR (Low Temperature Roast)

The low temperature magnetising roast process operates at less than 650°C using a fluid bed roaster, and conditions the ilmenite for the sulphate pigment processes. The process involves the use of reducing gases, carbon monoxide and hydrogen at controlled temperatures to 'homogenise' the iron so that the Fe(II) : Fe (III) ratio is uniform at 3:1. It uses a high intensity rare earth magnetic drum separation, and is effective on fresh and on weathered ilmenites.

In the LTR process the TiO_2 is not 'rutilised', and thus is soluble in acid, and is suitable for both chloride and sulphate processes. Magnetic susceptibility is enhanced and chromite levels are significantly reduced.



Source: Austpac Resources

The degree of impurity removal and degree of upgrading of ilmenites by the LTR process is illustrated in the table below:

Component %	Murray Basin feed #3		Murray Basin Feed #4	
	Feed	Product	Feed	Product
TiO_2 %	55.0	61.5	59.1	63.0
Fe_2O_3 %	28.6	35.4	31.8	34.3
Cr_2O_3 %	1.17	0.28	1.30	0.24
SiO_2 %	4.03	0.82	0.61	0.63
Al_2O_3 %	2.99	0.72	1.17	0.84
P_2O_5 %	0.30	0.09	0.13	0.12

Source: Austpac Resources

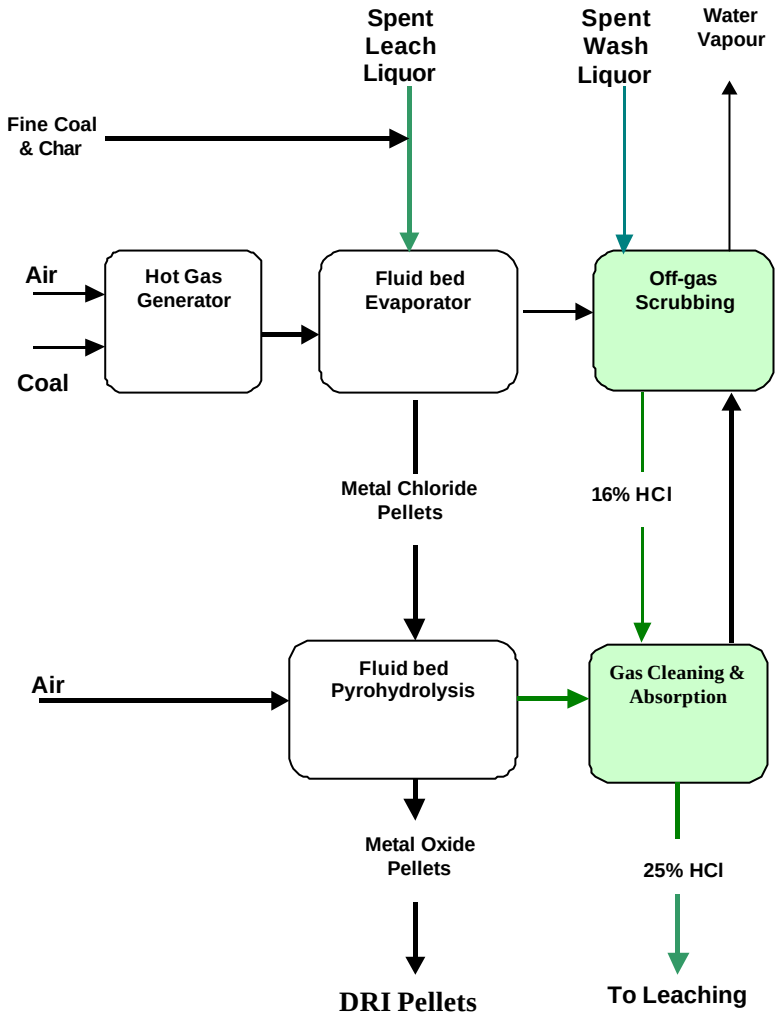
HCl leaching

The HCl leach processes have been developed using batch, and continuous, leach vessels. APG is working on a continuous leach reactor, with a patent pending. It has piloted a 'cold' model, and is to build a 'hot' model.

EARS (Enhanced Acid Regeneration System)

The EARS process involves the regeneration of HCl acid from Fe chloride using a fluid bed roaster. It uses a two stage process to regenerate hydrochloric acid (HCl) to 25% strength, and to reduce iron chloride ($FeCl_2$) to iron pellets by pyrohydrolysis.

EARS – simplified flow process diagram.



Source: Austpac Resources

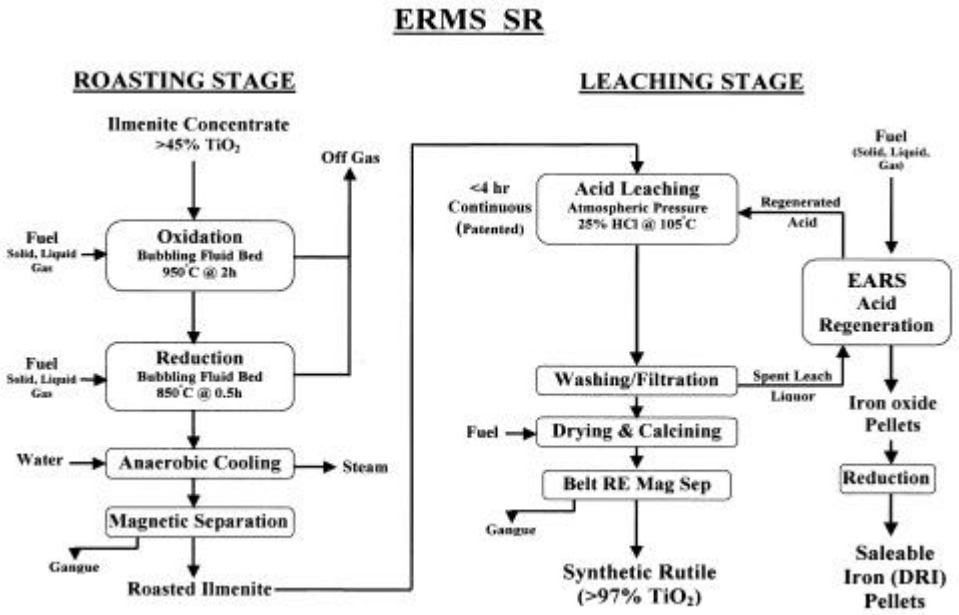
ERMS (Enhanced Roasting & Magnetic Separation)

This process is a high temperature magnetising roast in a fluid bed roaster at more than 750°C. Coal and air is added at atmospheric pressure over a bubbling fluid bed roaster. It is not a recirculating fluid bed roaster, making for less wear on parts and lower energy consumption. The process forms a skin of magnetite around the ilmenite grain, which allows for much better magnetisation and therefore better separation during low magnetic intensity separation.

Recoveries of ilmenite are high, generally in the order of more than 95%. By comparison, Richards Bay loses 20%-25% of its ilmenite in their roasting process.

In this process the TiO2 in the ilmenite is 'rutilised' making it insoluble in acid, and therefore useable in slag or in chloride processes, but not in sulphate processes.

ERMS-SR (Enhanced Roast, Magnetic Separation - Synthetic Rutile) process.



Source: Austpac Resources

The ERMS SR process is a high temperature oxidation process followed by a reduction process using fluid bed roasters, at up to 995°C. The ERMS SR Roast process enhances, and homogenises, the magnetic susceptibility of the ilmenite allowing better separation from gangue (non-valuable) minerals.

The process also conditions the ilmenite for rapid leaching in HCl, and renders the TiO2 insoluble in acid ('rutilised'). It increases the solubility of the iron and other unwanted constituents. It fractures the mineral grain allowing easier acid access through the grain, without destroying the structure.

Shorter residence time means smaller plant required.

The ERMS SR Leach process uses a strong acid leach (25% HCl) in approximately a 4 hour batch residence time. The use of the strong (super azeotropic) acid means that there is less water to be removed, and the equipment size required is smaller.

Iron and other metallic oxide impurities form their respective chlorides, and some silica is also removed. The original grain size is retained, while the structure of the interior of the grain transforms into an open network of rutile crystals.

The process does not metallise the mineral in the reduction phase (as in the Becher process) just reduces the Fe_2O_3 to FeO.

At atmospheric pressure.

The process is all at atmospheric pressure, with short leach times, which means that the total plant capacity requirement is smaller and less product is lost to slimes.

High grade TiO_2

The product synthetic rutile has grades of above 97% TiO_2, the highest TiO_2 grade of any current and contemplated processes.

	Typical Ilmenite Feed	Typical ERMS-SR	North Stradbroke Island – SR
TiO_2 %	51.0	97.9	98.00
$Fe2O_3$ %	48.6	0.74	0.55
SiO_2 %	1.48	0.47	0.57
$Al2O_3$ %	0.75	0.06	0.17
$Cr2O_3$ %	0.05	0.03	0.01
CaO %			<0.01
MgO %	0.86	0.09	0.02
MnO %	0.35	0.03	0.01
U + Th			< 10ppm

Source: Austpac Resources

The analysis of ERMS-SR produced from typical ilmenite feed and from North Stradbroke Island ilmenites, which are very like most Murray Basin ilmenites illustrates the high TiO_2 grade and low impurities.

ERMS efficiently removes more impurities than other processes.

Comparison with other synthetic rutile processes highlights the attractiveness of the ERMS-SR process. ERMS efficiently removes more impurities than other processes, and it not as constrained by energy type, nor by waste product disposal issues.

	Ilmenite Feedstock	Impurity Removal	Limitations
ERMS-SR	wide range	Mn, Mg, Ca, U+Th, V, Cr	none
Titania Slag	low TiO_2	none	high power cost
Becher-SR	High TiO_2	some Mn	coal availability, Fe oxide waste
Benilite SR	wide range	Mg, Ca, U+Th	acid cost, Fe oxide waste
NewGen-SR	wide range		process cost? Fe oxide waste

note: Becher process is ore-grade and coal-quality specific.

Source: Austpac Resources

ERMS' Fe waste is a saleable product.

Importantly the Fe 'waste' product is produced as 2mm-4mm iron pellets. All other processes that treat ilmenites result in an iron rich sludge, or similar difficult-to-manage or store byproduct. The initial assessment of the iron pellets by potential customers has been positive, the pellets being in a format very suited to the steel and foundry industries as iron feedstock for several processes.

Chromites are separable.

Post-roasting, chromite grains do not have any magnetic skin but are more magnetically susceptible than synthetic rutile, and more readily able to be separated.

Radio-nuclide contents from WA ilmenites are reduced by this process from approximately 1,500 ppm to about 50 ppm.

Off-gasses from ERMS-SR process are only CO_2 and steam, with none of the other more hazardous off-gases often produced by higher temperature roast processes.

The ERMS SR process is a continuous process. All other SR processes are batch processes.

The ERMS SR process has no liquid or solid effluents; all water is recycled and all solids are saleable. It is therefore the most environmental-friendly process available.

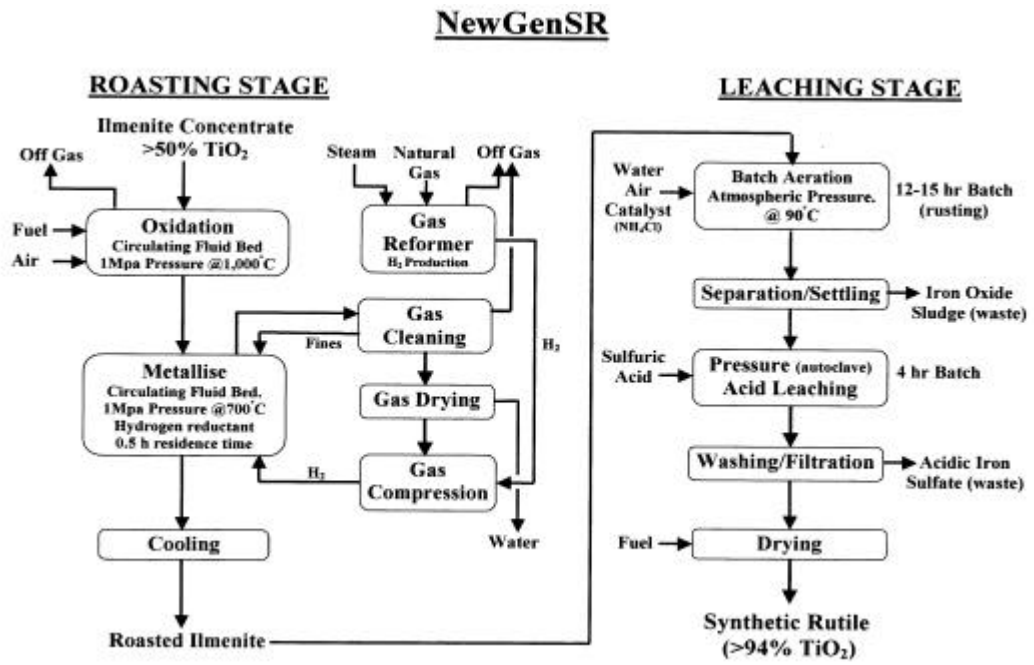
Low capital cost requirements.

The ERMS SR process has low capital and operating costs. The low residence time means that the over-all plant size can be smaller than other processes, keeping capital costs low.

	TiO2 Content	Capital USD/t	Operating USD/t	Selling Price USD/t	Margin USD/t
ERMS-SR	>97%	450	200	470	270*
Titania Slag	85%	970	190	280	90*
Becher-SR	92%	550	150	350	200
Benilite SR	95%	750	280	400	120
NewGen-SR	94%	?	?	380	
Upgraded Slag (UGS)	95%	?	?	500	

*note: Titania slag and ERMS SR margin excludes value for pig-iron and iron pellets respectively of about USD190/t .

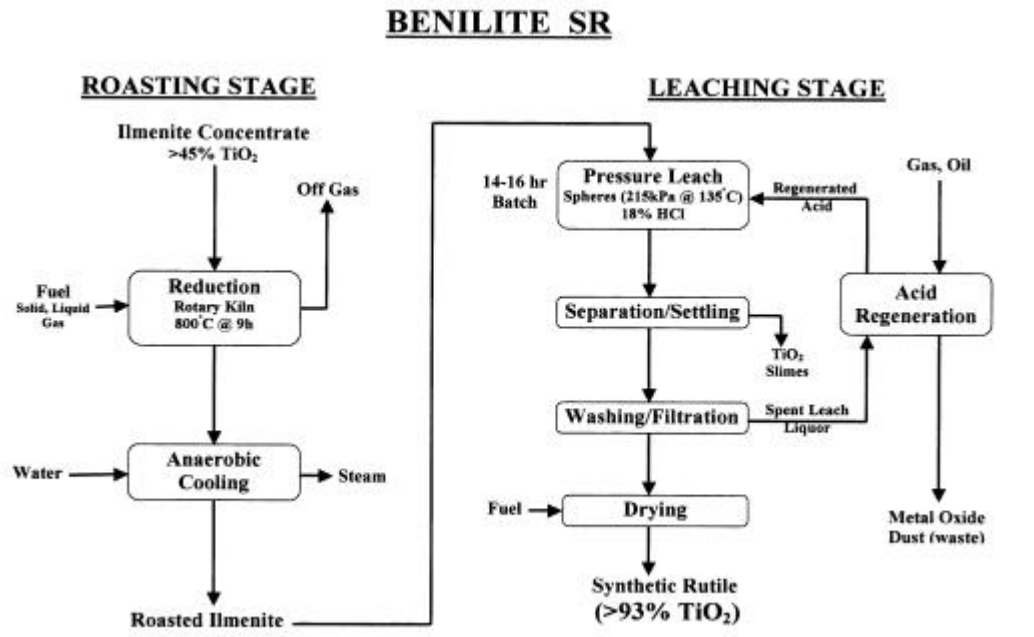
Source: Austpac



Iluka is working on refining its proposed NewGenSR process, which involves a high temperature, high pressure circulating fluid bed roast for the ilmenite. The iron oxide is settled out as a iron sludge waste product requiring disposal. Off gases are expected to include CO_2 (more than ERMS-SR as NewGen burns fuel), and not much else assuming that the process adequately scrubs its gases in its gas reforming process.

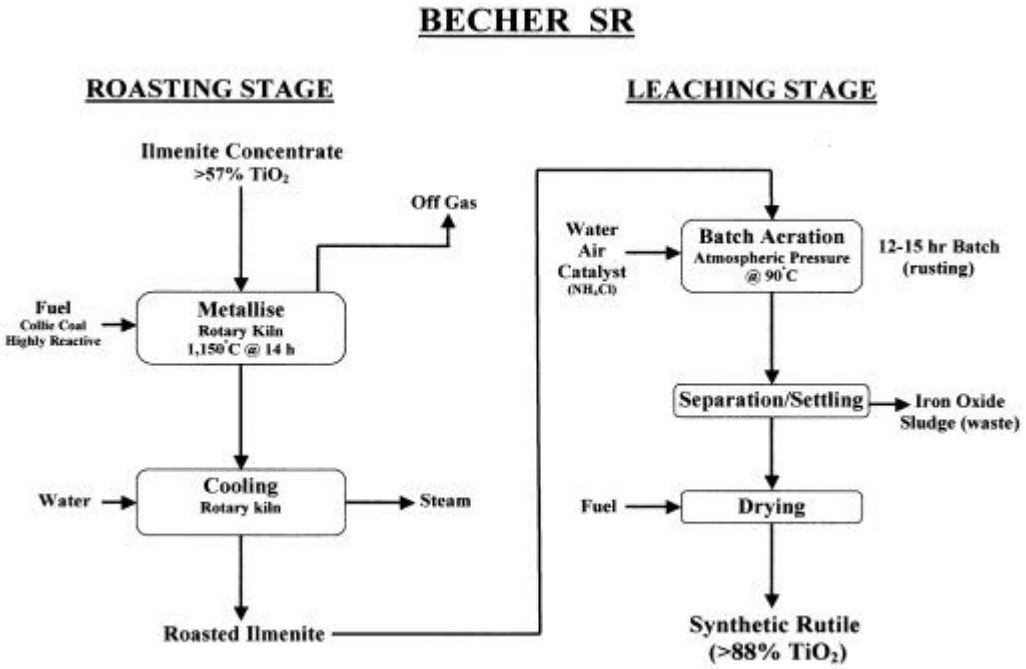
ILU has commented that it is still working to commercialise the process.

Benilite Synthetic Rutile Process.

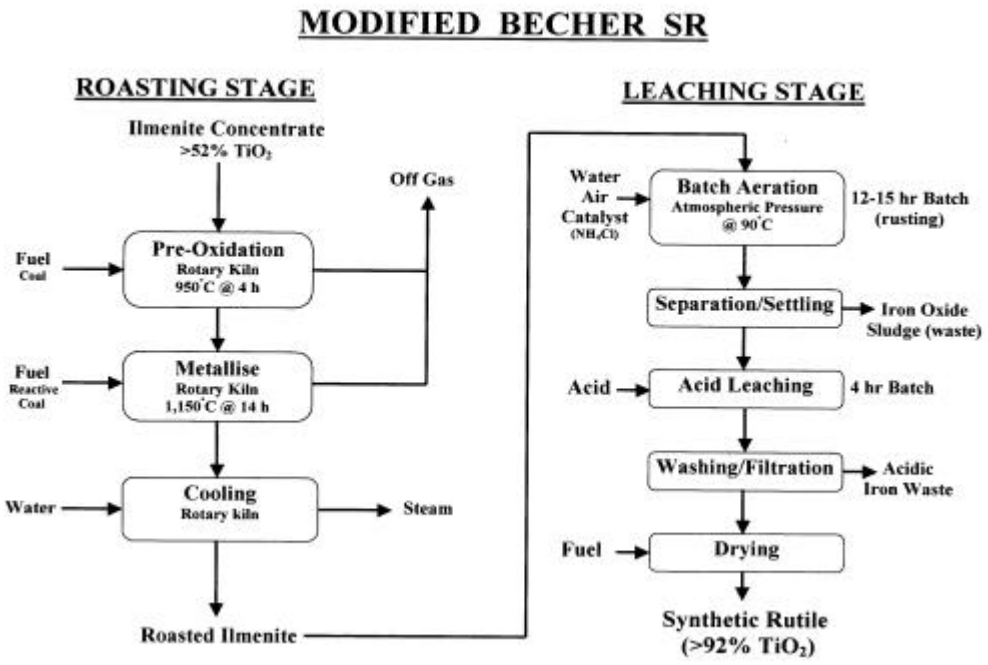


A 100,000 tonne pa Benilite (or Acid Leach process) Synthetic Rutile plant requires about 16x rolling ball digesters. It uses 18% acid, and involves pressure leaching with a digestion time in some plants of as long as 30 hours, which consequently produces approximately 30% slimes. The Benilite process has some attraction In that it can treat a wide range of ilmenites and does remove the impurities Mg, Ca, U, and Th, however it has a high cost of acid (HCl).

Off-gases resulting from the process burning bunker fuel will include sulphur, CO_2, steam and some dioxins and furans (from the use of the spray roaster).



The Becher process has limitations in that it is quite specific as to the coal used. It requires a highly reactive coal for use as a reductant. The Muja seam coal from the Collie area has appropriate qualities. It is also feedstock specific in that it needs relatively high grade ilmenites containing +57% TiO_2.



The Becher process also produces an iron oxide waste that must be disposed of, usually back into mined areas. In 1997, Iluka committed $18m to build a pilot pig-iron plant to evaluate compression of the iron oxides into briquettes for use as feed into a pig-iron plant, which would avoid returning the iron oxide to the mine as land fill. The process of agglomerating the iron oxide with lime to render it suitable for blast furnace feed is an energy intensive operation. However the investment in that project has since been written off, suggesting the process was not viable.

The off-gases also contain SO_2 in (even the low sulphur Collie) coal used. NOx gases are relatively high because of the high temperature of roast.

PRODUCTION

Yr Ending June	2003A	2004E	2005E	2006E	2007E
Ore Treated 000t	0.0	0.0	0.0	70.0	70.0
Sales					
Synthetic Rutile 000t	0.00	0.00	0.00	30.00	30.00
Iron Pellets 000t	0.0	0.0	0.0	23.1	23.1

PRICES

Yr Ending June	2003A	2004E	2005E	2006E	2007E
A$/US$	0.585	0.715	0.660	0.650	0.650
ERMS Syn Rutile USD/t	334	450	450	450	450
Fe pellets AUD/t	207	211	215	220	224

INVESTMENT AND VALUATION FUNDAMENTALS

Yr Ending June	2002A	2003A	2004E	2005E	2006E
EPS Before Abs (c)		-0.2	-0.2	-0.3	0.3
EPS Growth (%)			15.8%	-100.0%	203.1%
PER (x)		**-29.0**	**-28.1**	**-14.1**	**13.6**
CFPS (c)		-0.2	-0.2	-0.3	2.1
P/CF (x)		**-28.9**	**-28.1**	**-14.5**	**2.1**
EV/EBITDA (x)		-30.1	-12.3	-64.7	3.1
DPS (c)		0.0	0.0	0.0	0.0
Yield (%)		0.0%	0.0%	0.0%	0.0%
Franking (%)		0%	0%	0%	0%

DCF VALUATION @ 10%

Yr Ending June	A$m	A$ps
ERMS SR Project9s)	49.9	0.07
LTR Project(s)	4.4	0.01
EARS Project(s)	0.5	0.00
Corporate Costs Capitalised	-4.9	-0.01
Hedge Book	0.0	0.00
Interests – Other Entities	5.0	0.01
Exploration Portfolio	0.6	0.00
Franking Credits	0.0	0.00
Cash	20.4	0.03
Debt + CNotes	0.0	0.00
Minorities	0.0	0.00
Additional Capital – Dilution	0.0	0.00
Total Valuation – Fully Diluted	**75.8**	**0.10**

PROFITABILITY RATIOS

Yr Ending June	2002A	2003A	2004E	2005E	2006E
EBIT / Sales (%)					22.1%
ROA (%)	0.0%	-11.3%	-7.7%	-2.2%	7.3%
ROE (%)	0.0%	-12.4%	-4.4%	-7.4%	7.6%
ROFE (%)	0.0%	-12.1%	-8.6%	-2.8%	9.5%

INTERIMS ($m)

Half Yr	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04
Yr Ending June	1H A	2H A	1H A	2H E	1H E
Sales Revenue	0.0	0.0	0.0	0.0	0.0
EBIT	0.0	-0.7	-0.5	-0.5	-0.5
Net Profit	**0.0**	**-0.7**	**-0.5**	**-0.5**	**-0.6**
EPS	0.0	-0.2	-0.1	-0.1	-0.1

1. Gearing = (Debt + CNotes) / (Debt + Cnotes + Equity)

BALANCE SHEET ($m)

Yr Ending June	2002A	2003A	2004E	2005E	2006E
Cash		0.2	20.4	1.8	3.1
Total Assets	0.0	12.8	34.7	85.6	74.6
Debt		0.3	0.0	35.8	25.2
Total Liabilities	0.0	1.1	2.1	55.2	41.9
Total Shareholders Equity		11.7	32.7	30.3	32.7
Total Funds Employed		11.7	12.3	64.3	54.8

LIQUIDITY & LEVERAGE RATIOS

Yr Ending June	2002A	2003A	2004E	2005E	2006E
Debt / Equity (%)		2.1%	0.0%	118.0%	76.9%
Gearing (%) [1]		2.1%	0.0%	54.1%	43.5%
Interest Cover (x)	0.0	-33.8	-19.2	-0.6	2.4
Debt / CashFlow (x)		-0.2	0.0	-28.3	1.5
(Debt+CNotes)/ CashFlow		-0.4	0.0	-15.6	1.6

PROFIT & LOSS ($m)

Yr Ending June	2002A	2003A	2004E	2005E	2006E
Sales Revenue		0.0	0.0	0.0	25.5
EBITDA		-0.7	-1.0	-1.0	17.6
Depn and Amortisation		0.0	0.0	0.0	12.0
EBIT		**-0.7**	**-1.0**	**-1.1**	**5.6**
Net Interest Expense		0.0	-0.1	1.3	2.2
Pre-tax Profit		**-0.7**	**-1.0**	**-2.3**	**3.4**
Tax		0.0	0.0	0.0	1.0
Tax rate (%)		0.0%	0.0%	0.0%	30.0%
Minorities / pref divs		0.0	0.0	0.0	0.0
Equity accounted NPAT		0.0	0.0	0.0	0.0
Net Profit		**-0.7**	**-1.0**	**-2.3**	**2.4**
Abnormals		0.0	0.0	0.0	0.0
Reported Net Profit		-0.7	-1.0	-2.3	2.4

CASHFLOW ($m)

Yr Ending June	2002A	2003A	2004E	2005E	2006E
Operating Cash Flow		-1.6	-0.6	-1.3	16.7
Capital Expenditure		0.0	0.0	-50.7	-1.0
Expln, Develop, Evaln		0.0	0.0	0.0	0.0
Asset Sales/Acquisitions		0.0	0.0	0.0	0.0
Other	0.0	1.5	-0.9	-0.4	-1.4
Investing Cash Flow		1.5	-0.9	-51.2	-2.4
Share Issues/(Buybacks)		1.2	22.0	0.0	0.0
Debt Drawdown (Repay)		-1.3	-0.3	35.8	-10.6
Dividends Paid		0.0	0.0	0.0	0.0
Other Fin. Flows		0.0	-0.1	-1.9	-2.3
Financing Cash Flow		-0.1	21.7	33.9	-13.0
Cash Increase (Decrease)		-0.3	20.2	-18.6	1.3

EARNINGS SENSITIVITIES - % CHANGE

Yr Ending June	2002A	2003A	2004E	2005E	2006E
AUDUSD +/- 5c	0.0	0.0	-1.0	-1.1	-1.2
SynRutile +/- USD40/t	0.0	0.0	1.3	1.4	1.5
Fe Pellets +/-AUD20/t	0.0	0.0	0.4	0.4	0.4
Ilmenite +/- USD10/t	0.0	0.0	-0.5	-0.5	-0.6

Disclosure of interest. Corporations Act Section 849 Declaration - The Directors of Wilson HTM Ltd A.B.N. 68 010 529 665 advise that at the date of this report they and their associates have interests in 50,000 securities in Austpac Resources NL. They also advise that Wilson HTM Ltd and Wilson HTM Corporate Finance Ltd A.B.N. 65 057 547 323 and their associates have received and may receive commissions or fees from Austpac Resources NL in relation to advice or dealings in securities. Some or all Wilson HTM Ltd representatives may be remunerated wholly or partly by way of commission.

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