



*ASX ANNOUNCEMENT – 1 July 2008*

## **DUBBO ZIRCONIA PROJECT DEMONSTRATION PILOT PLANT UPDATE**

- **The Dubbo Zirconia Project (DZP) is based upon the world class resource of zirconium, hafnium, niobium, tantalum, yttrium and rare earth metals located south of Dubbo in the Central West of New South Wales.**
- **The DZP's Demonstration Pilot Plant (DPP) was commissioned at ANSTO Minerals research facilities at Lucas Heights, south of Sydney in April.**
- **The plant has operated on several short campaigns of a few days duration to test the mechanical and process integrity of the flow sheet.**
- **To date the plant has processed 8 tonnes of ore, producing nine thousand litres of pregnant leach solution. So far 50kg of zirconium product and 10kg of niobium concentrate have been recovered.**
- **Laboratory scale testing for recovery of the rare earth elements is scheduled to commence in July.**
- **Full 24/7 operation of the DPP is also scheduled to commence mid to late July.**



### **Corporate Profile**

Alkane Board

J. S. F. Dunlop (Chairman)

D. I. Chalmers (Managing Dir)

A. D. Lethlean (Director)

I. J. Gandel (Director)

I. R. Cornelius (Director)

L A Colless (Joint Secretary)

K E Brown (Joint Secretary)

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12 month share price range

A\$0.515 - \$0.25

Market Cap 30 June 08

~A\$100 million

ASX Code: ALK

242.4 million shares (June 08)

March 2008 Cash

~ \$12.3 million

No debt

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The Dubbo Zirconia Project (DZP) is located 30 kilometres south of the large regional centre of Dubbo in the Central West Region of New South Wales. The DZP is based upon one of the world's largest in-ground resources of the metals **zirconium, hafnium, niobium, tantalum and yttrium, and rare earth elements.**

Over several years the Company has developed a flow sheet consisting of sulphuric acid leach followed by solvent extraction recovery and refining to produce several products (figure 1). This flow sheet had previously been trialled to Mini Pilot Plant level, to recover a suite of zirconium chemicals, zirconia, a niobium-tantalum concentrate and a yttrium-rare earth concentrate which are used in the expanding ceramic, catalyst, electronics, batteries and magnets, engineering ceramic, and specialty glasses and alloys industries, as well as the nuclear power industry.

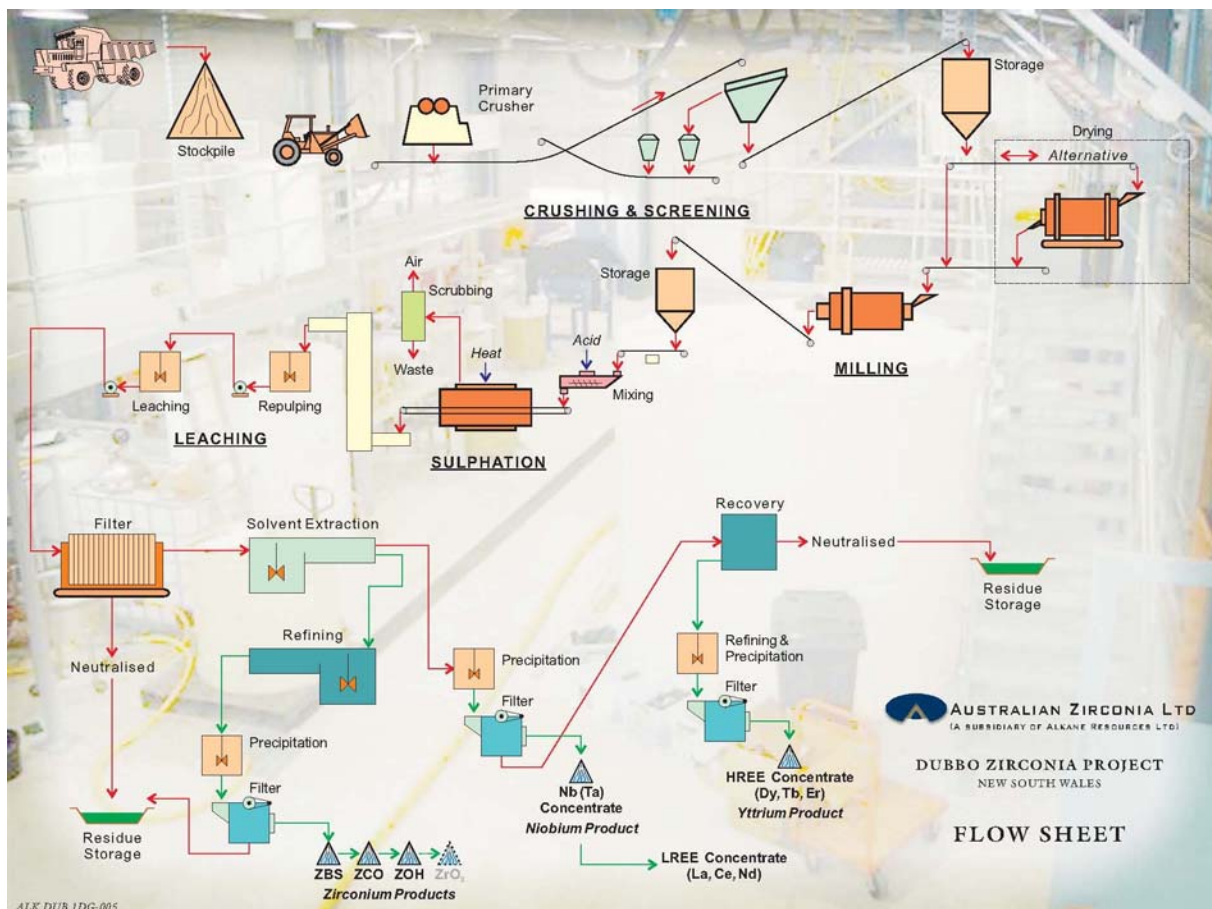


Figure 1

Following receipt of a \$3.3 million Commercial Ready Grant from AusIndustry (Australian Federal Government), process optimisation and development work commenced in July 2006 at the laboratory facilities of **ANSTO Minerals** at Lucas Heights south of Sydney. ANSTO Minerals is a business unit of the Australian Nuclear Science and Technology Organisation and is one of Australia's premier research facilities. Construction of the **Demonstration Pilot Plant (DPP)** commenced late in 2007.

Commissioning of the DPP commenced in April (ASX Announcement 8 April 2008) and comprised the sulphation, leaching, filtration and solvent extraction stages. The zirconium and niobium product recovery circuits were bought on stream progressively during May and June. As was anticipated, the DPP was operated in short campaigns to test the integrity of the mechanical and process components of the plant. Minor mechanical changes have been made to date and some process improvements are being considered, but overall the plant and process have been demonstrated to be robust.



Eight tonnes of ground ore have been processed producing 9,000 litres of pregnant leach solution from which 5,000 litres have been processed through the solvent extraction circuit. To date this has produced 50 kilograms of zirconium sulphate (ZBS) and 10 kilograms of niobium concentrate (Nb-Ta Conc).

Currently the rare earth flow sheet for the DPP has not been finalised but ANSTO have recommended two possible process routes which will be tested in the laboratory prior to incorporation into the flow sheet. This work is scheduled to commence in July using loaded solutions from the DPP.

The DPP is designed to test the complete flowsheet, providing process and engineering data, but most importantly, several tonnes of the various products for distribution to potential end users. The plant is scheduled to go to 24/7 operation by mid to late July and process the remainder of the 100 tonnes of ore stored at ANSTO by the end of this year. The operation could be extended for a further six months (additional 100 tonnes) depending upon any process issues and the amount of sample products required to be distributed to potential consumers.

**DPP Images:**



**Rotary kiln (Sulphation)**



**DPP Internal Main Shed**



**Solvent Extraction**



**Zirconium and niobium product recovery**



**Zirconium product filter**

## **BACKGROUND**

**Alkane** is a multi commodity explorer and miner with its operations focussed in the **Central West of New South Wales**, centred about 400km northwest of Sydney. Over several years, including experience in developing the Peak Hill Gold Mine, Alkane has built a substantial resource base and is proceeding towards several developments:

The **Tomingley Gold Project** currently has a **606,000 ounce gold resource** within the **Wyoming deposits**, of which 75% is in the Measured and Indicated categories (full details 2007 Annual Report). The recent discovery at **Caloma** could add significantly to the resource base and a substantial drilling program has been completed to define this resource. A feasibility study for the development of the project is anticipated to be completed early 2009.

The **Dubbo Zirconia Project** is based upon a world class resource of the metals zirconium, hafnium, niobium, tantalum, yttrium and rare earth elements. The deposit also contains significant uranium. Over several years Alkane has developed a flow sheet which can recover a variety of products which have expanding applications in electronics, ceramics, catalysts, special alloys and glasses, fuel cells, special batteries and permanent magnets, nuclear power and as environmental drying agents. Following a \$3.3 million Commercial Ready Grant from AusIndustry in 2006, the feasibility study was reactivated. The study includes the construction and operation of a Demonstration Pilot Plant, and a development commitment is anticipated mid 2009.

Near **Orange**, the Company has a joint venture (**ODEJV**) with Newmont, one of the world's largest gold miners, which resulted in the discovery in 2006 of a potentially significant gold deposit at **McPhillamys** within the **Moorilda Project**. This discovery includes intersections of 123 metres grading 1.96g/t gold and 77 metres at 1.65g/t gold within a 300 metre by 200 metre mineralised zone. Late in 2007 two deep core holes produced substantial gold intercepts in KPD002 of 225 metres grading 1.16g/t gold and KPD003 with 263 metres at 1.30g/t gold, and within both holes there were several higher grade intervals (e.g. KPD002 51 metres at 1.67g/t gold and 52 metres at 1.55g/t gold; KPD003 26 metres at 3.75g/t gold and 48.7 metres at 2.74g/t gold)

Elsewhere within the region, Alkane has defined a 2 million tonne 1.00% copper Indicated Resource (details 2007 Annual Report) which is being reviewed for its development potential at **Galwadgere** within the **Wellington Project**, and several other advanced exploration projects with encouraging drill intercepts.

In **Western Australia** the Company holds 9 million shares (15.15%) of listed iron ore explorer **BC Iron Limited** and a diluting 25% residual interest in a nickel sulphide joint venture with **Xtrata Nickel (Jubilee)** near **Leinster**.

*Mr D I Chalmers, FAusIMM, FAIG, (director of the Company) has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Ian Chalmers consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*