



1 February 2012

Manager Announcements  
Company Announcements Office  
ASX Limited  
20 Bridge Street  
Sydney NSW 2000

Dear Sir,

**PRESENTATION  
Dubbo Zirconia Project**

Attached is a copy of the Company's presentation to the REE World's Technology Metals Summit 2012 in Toronto, Canada.

A copy of this presentation will also be available on the Company's website [www.alkane.com.au](http://www.alkane.com.au).

Yours faithfully,  
for **ALKANE RESOURCES LTD**

D I Chalmers  
**Managing Director**



## Dubbo Zirconia Project

NSW Australia

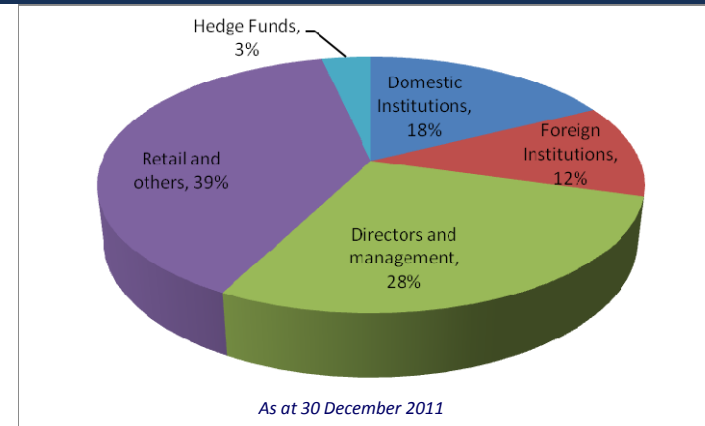
*A strategic and alternate source of zirconium,  
rare earth and niobium products*



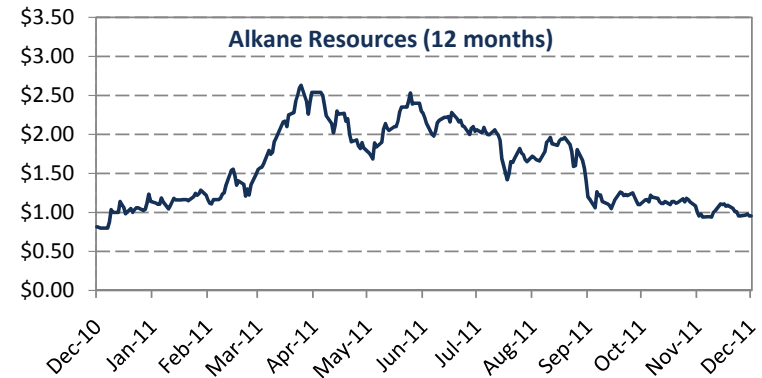
## Equity

- Shares – 269,028,158
- Options – nil
- Share price – A\$1.00
- Market Capitalisation – A\$269M
- Cash – A\$9M (31 Dec 2011)
- Debt – nil
- Share turnover – A\$55M per month (average 2011)
- 12 Month Low/High – A\$0.89/\$2.73
- Codes – ALK (ASX)  
– ANLKY (OTCQX)

## Ownership



\* Major Shareholder: Abbotsleigh (Gandel Metals) – 26%



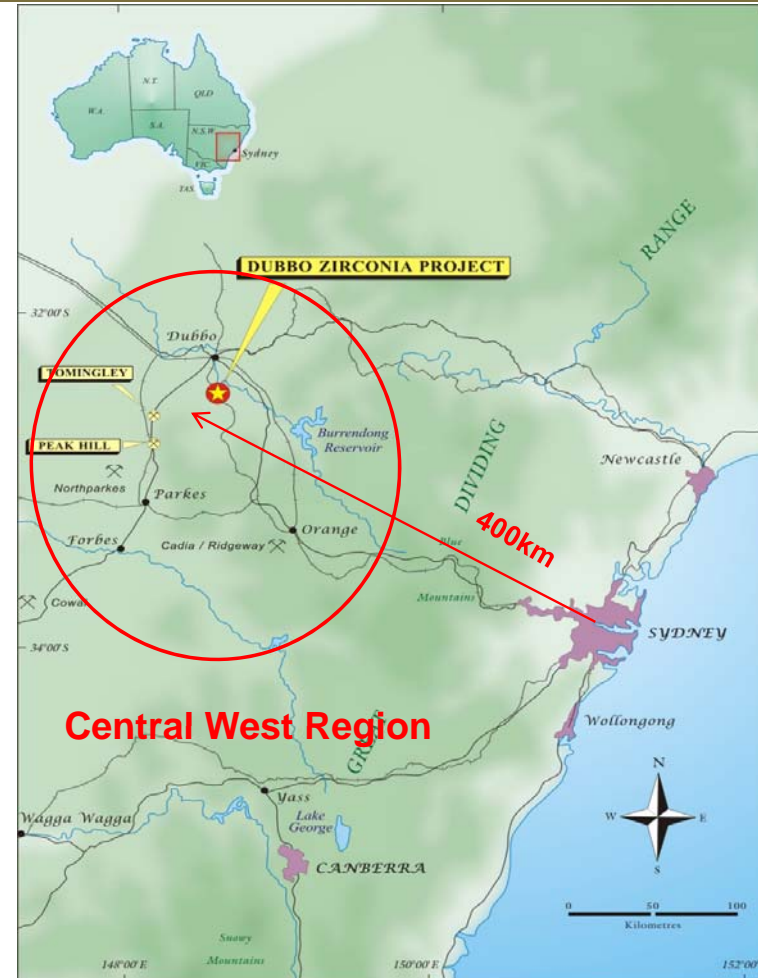
Multi commodity explorer and miner, focussed in the Central West of New South Wales, Australia Region with substantial existing infrastructure

Dubbo Zirconia Project – world class resource of zirconium, hafnium, niobium, tantalum, yttrium and rare earths

Gold production from Peak Hill mine 1996 – 2005. New gold development planned to commence at Tomingley in 2013 based upon 660,000 oz resource

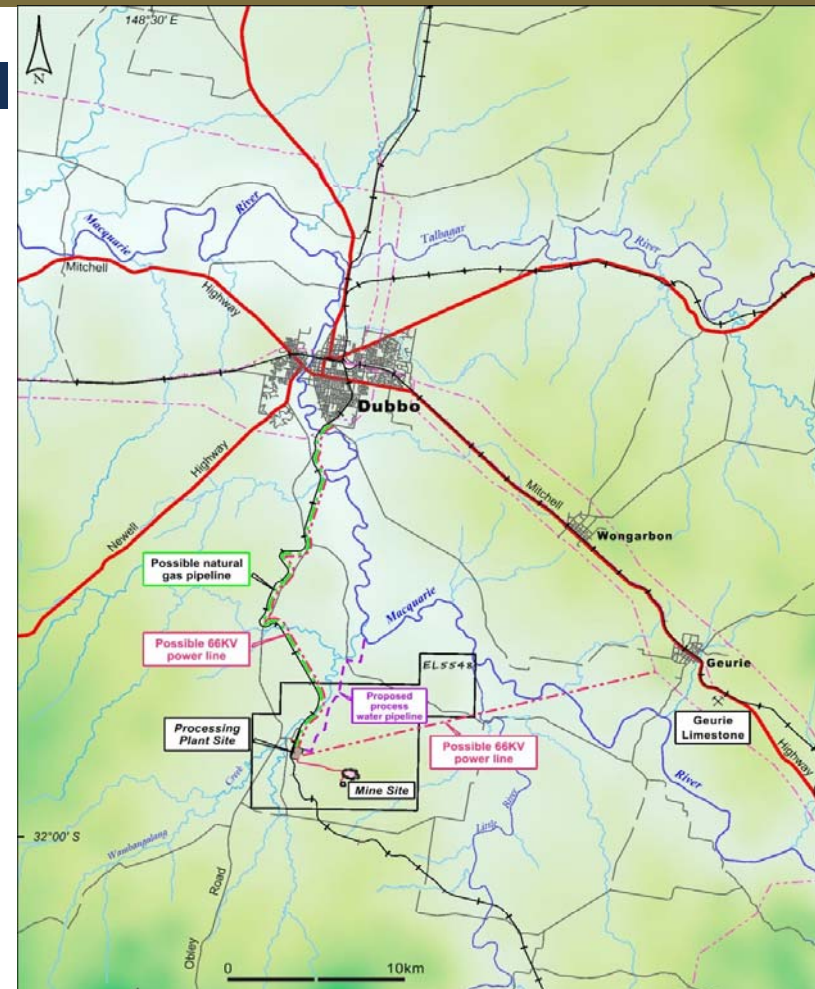
Major gold discovery at McPhillamys (~3 million oz) Joint Venture with Newmont

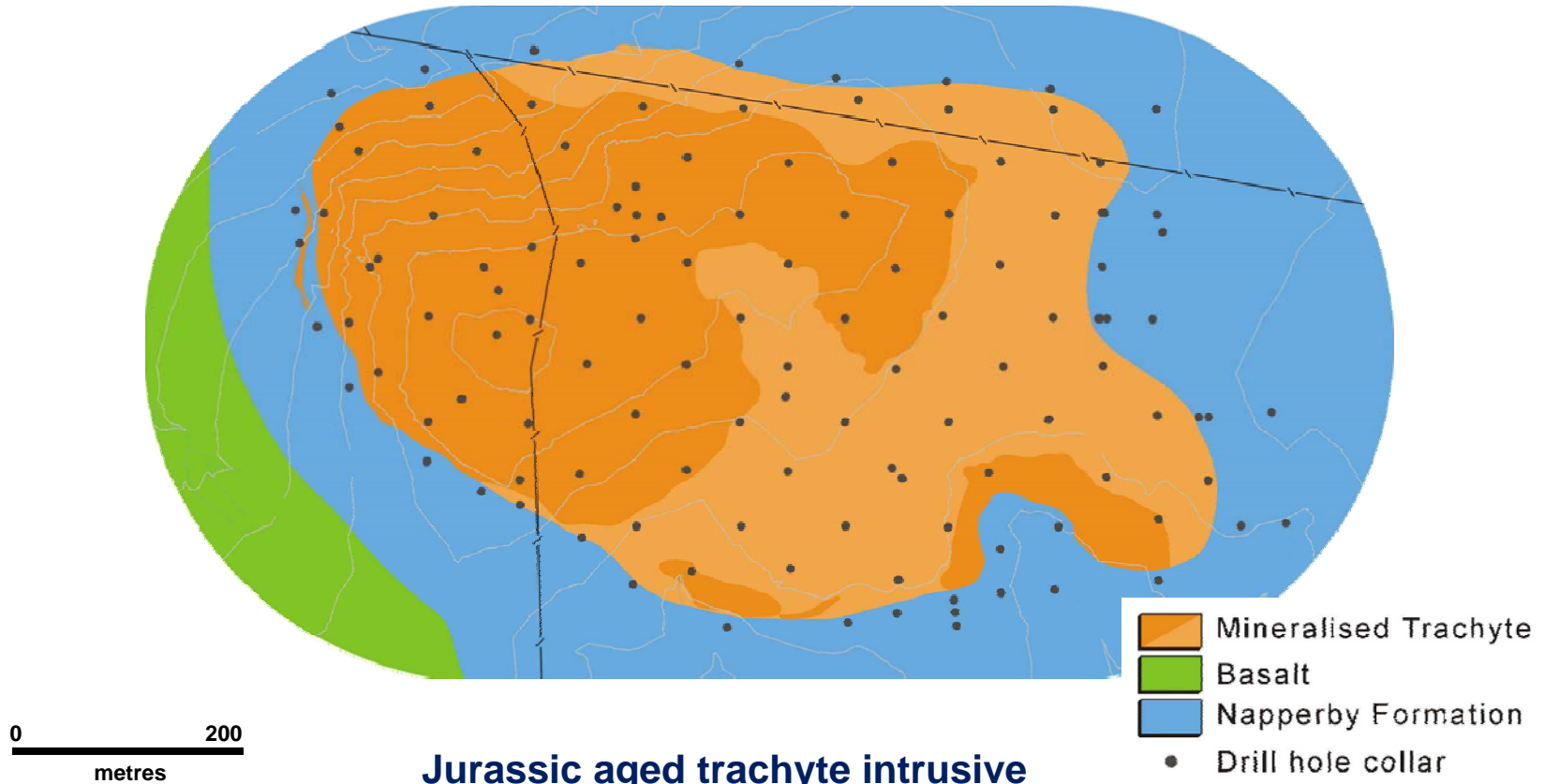
Develop multiple operations within tight geographic area over next five years. New discoveries at Cudal (Au-Zn) , Bodangora (Au-Cu) and Galwadgere (Cu-Au)



## Infrastructure

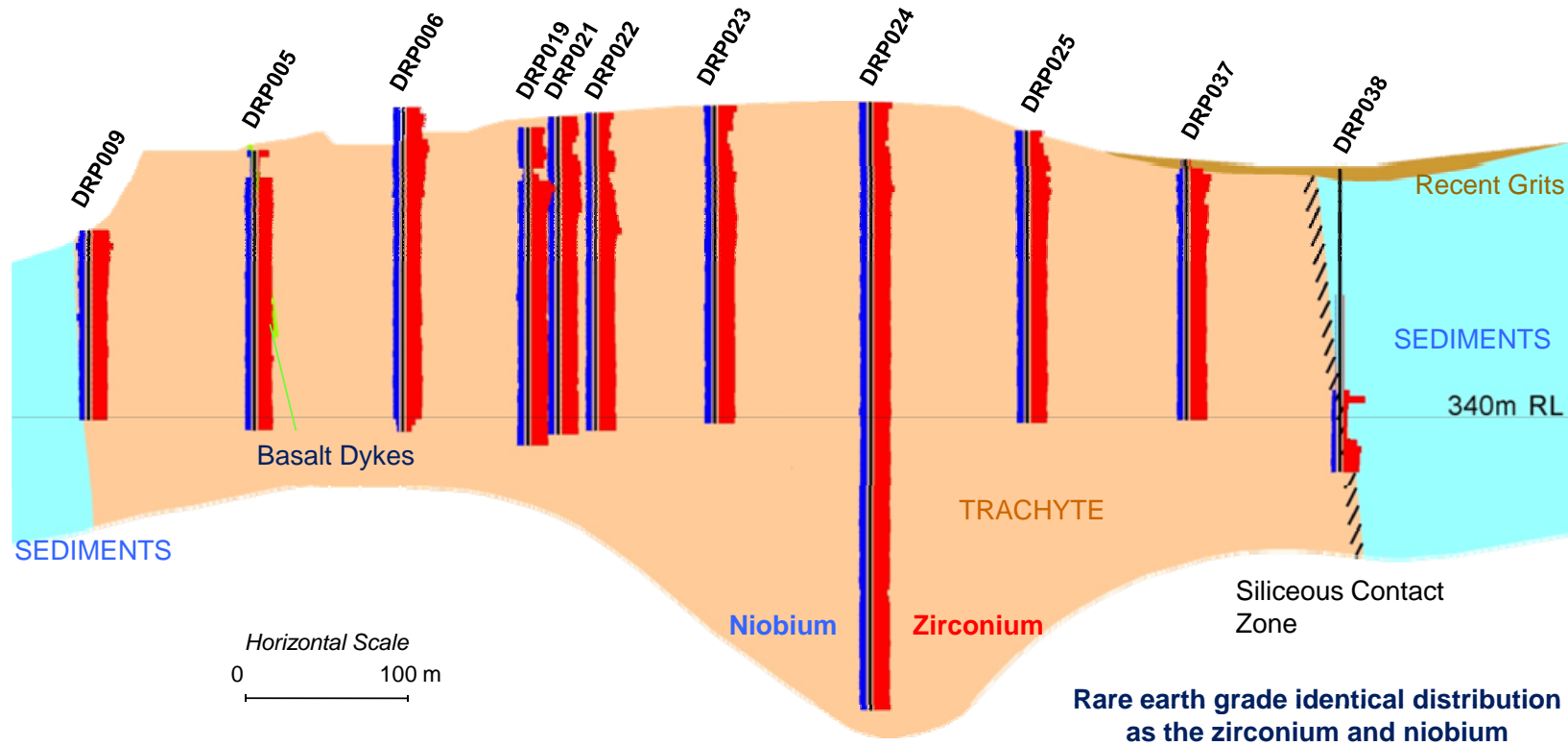
- Population – 80,000 Dubbo regional
- Rail – railway hub
- Road – major highways intersection/hub
- Water – numerous sources
- Electricity – NSW State power grid
- Gas – NSW State gas grid
- Industrial – substantial light industry
- Agriculture – major agricultural hub
- Limestone available at Geurie







## East-west cross section through centre of deposit





Zirconium Heavy REs	eudialyte armstrongite	$ZrSiO_4 \pm Ca, Y,$ HREE, $H_2O + ?U$	< $2\mu m - 50\mu m$
Niobium/ Tantalum	natroniobite	$NaNbO_3 + Ta + ?Th$ also $NbFeSiO_4$	< $30\mu m$
Light REs	calcian basnaesite	$Ca(REE)(CO_3)F$	< $100\mu m$
	rare ancylite	$Sr(REE)(CO_3)H_2O$	

The deposit does not contain zircon; pyrochlore; columbite; monazite or xenotime

## Resources & Reserves

- Resources & Reserves – open at depth
- Life – +20 years but can support longer life and higher production rates
- Major world resource - zirconium, hafnium, niobium, tantalum, yttrium & rare earth elements

Resources	Depth (m)	Tonnes (Mt)	Grade
<b>Measured</b>	<b>0-55</b>	<b>35.7</b>	1.94% ZrO <sub>2</sub> , 0.04%HfO <sub>2</sub> , 0.46% Nb <sub>2</sub> O <sub>5</sub> , 0.03% Ta <sub>2</sub> O <sub>5</sub> , 0.14% Y <sub>2</sub> O <sub>3</sub> , 0.74% REO (0.9% TREO)
<b>Inferred</b>	<b>55-100</b>	<b>37.5</b>	As above
<b>Total</b>	<b>0-100</b>	<b>73.2</b>	<b>As above</b>
Reserves			
<b>Proven</b>	<b>0-26</b>	<b>8.1</b>	1.93% ZrO <sub>2</sub> , 0.04%HfO <sub>2</sub> , 0.46% Nb <sub>2</sub> O <sub>5</sub> , 0.03% Ta <sub>2</sub> O <sub>5</sub> , 0.14% Y <sub>2</sub> O <sub>3</sub> , 0.75% REO (0.9% TREO)
<b>Probable</b>	<b>26-45</b>	<b>27.9</b>	As above
<b>Total</b>	<b>0-45</b>	<b>35.9</b>	<b>As above</b>

**Process development work began in 1999 and the basic flow sheet trialed at mini-pilot plant stage in 2001 - 2002**

- Preliminary test work on HCl, HF, NaOH leaching, and H<sub>2</sub>SO<sub>4</sub> roasting and leaching
- Preliminary flotation to assess potential for pre-concentration
- Scan of various physical separation processes
- Definitive flotation test work for pre-concentration

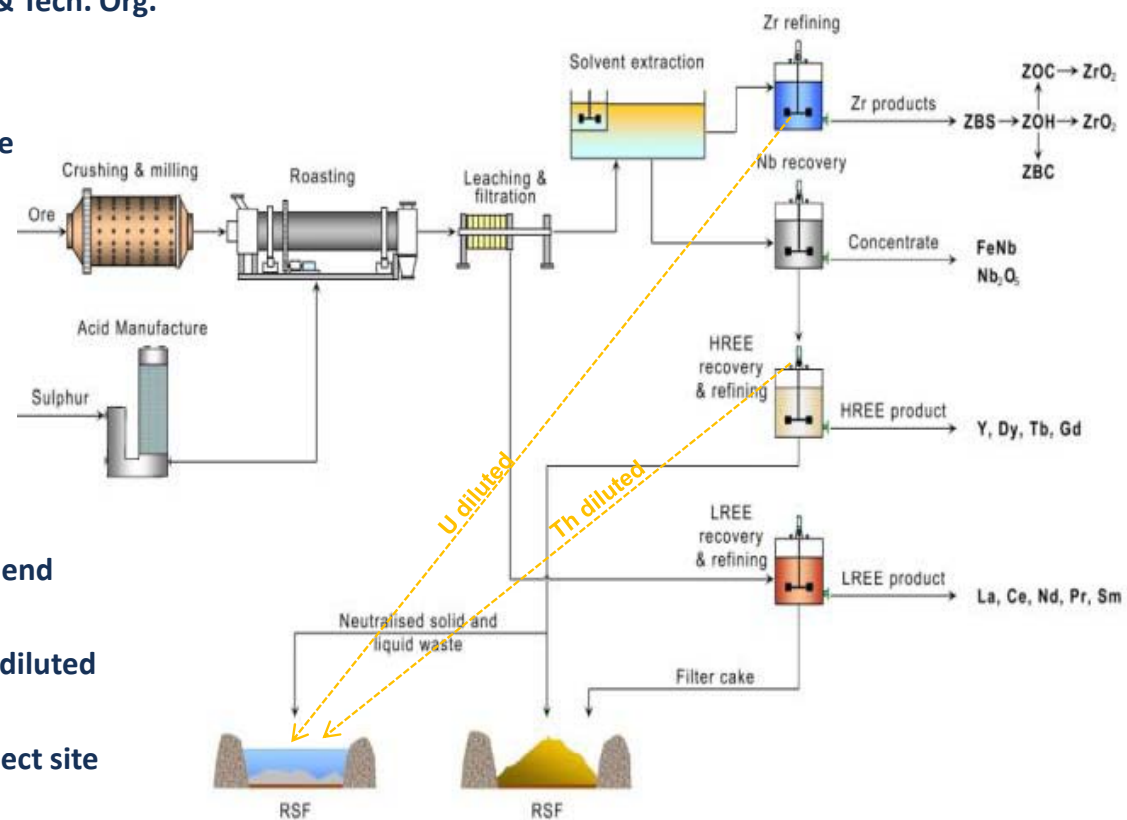
**Only H<sub>2</sub>SO<sub>4</sub> roast/leach gave potentially viable process**

- Separation process uses standard solvent extraction techniques, selective precipitation, filtration and washing to deliver final products

**Demonstration pilot plant successfully operating since 2008**

## Processing

- Demonstration Pilot Plant – established 2008
- ANSTO – Aust. Nuclear Science & Tech. Org.
- Process – unique & advanced
- Optimization – ongoing
- Sulphuric acid leach whole of ore
- Solvent extraction, separation & refining
- Chemical precipitation
- Zirconium products
- Niobium products
- Heavy RE product
- Light RE product
  
- No mineral concentrate at front end  
- no concentration of U and Th
- Waste streams neutralised and diluted with limestone
- All residues retained within project site





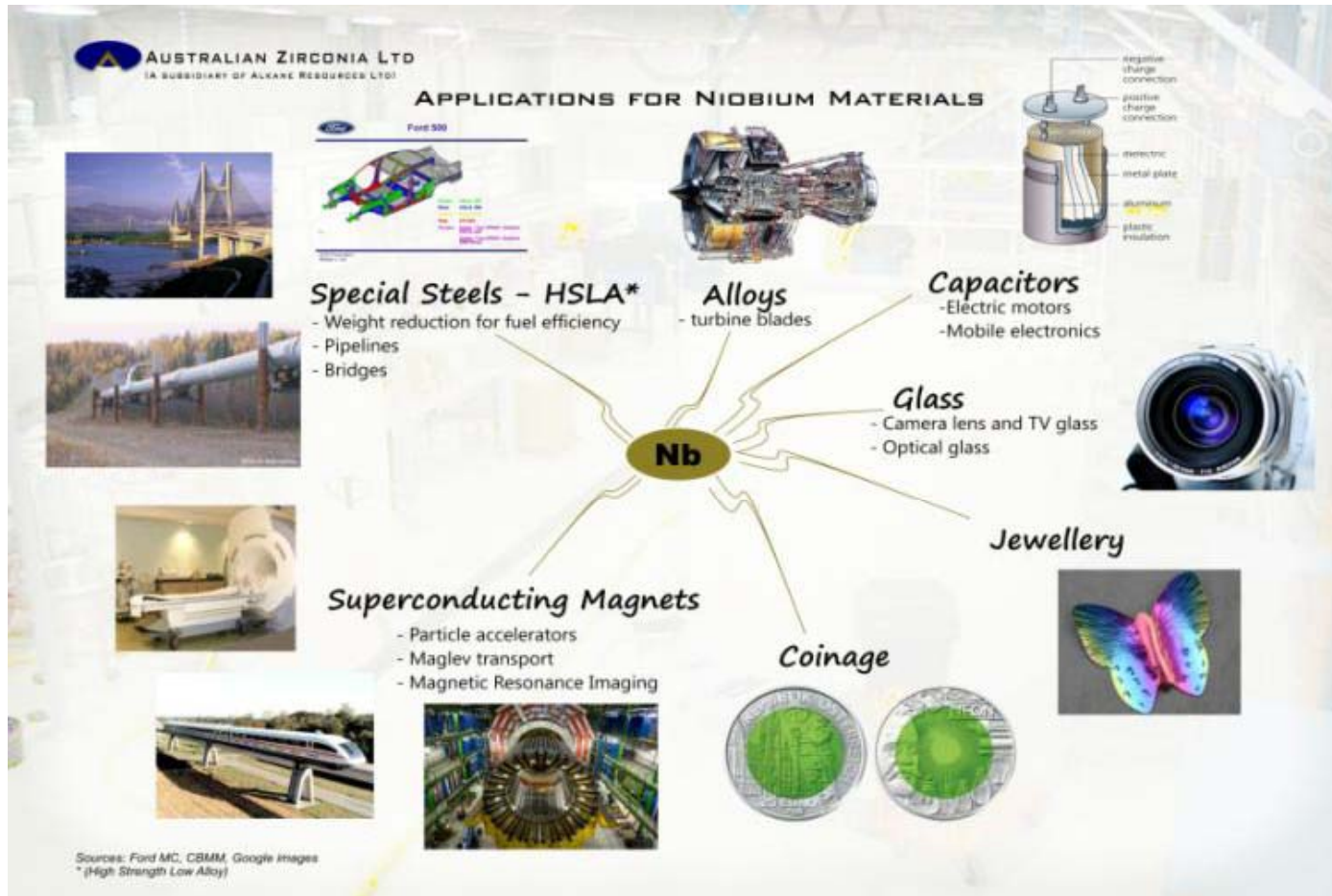


PRODUCT	ZrO <sub>2</sub>	Q2 2010 US\$/T	Q2 2011 US\$/T	Q3 2011 US\$/T	Q4 2011 US\$/T
<b>Zircon (producer/trader)</b>	<b>65%</b>	<b>\$900 - \$1,150</b>	<b>\$1,700 - \$2,750</b>	<b>\$2,200 - \$2,800</b>	<b>\$2,100 - \$2,900</b>
(100% ZrO <sub>2</sub> basis)	100%	(\$1,380 - \$1,770)	(\$2,620 - \$4,230)	(\$3,380 - \$4,310)	(\$3,230 - \$4,460)
<b>ZOC (zirconium oxychloride)</b>	<b>36%</b>	<b>\$1,350 - \$1,450</b>	<b>\$3,600 - \$4,000</b>	<b>\$3,500 - \$3,900</b>	<b>\$2,850 - \$3,100</b>
(100% ZrO <sub>2</sub> basis)	100%	(\$3,750 - \$4,030)	(\$10,000 - \$11,110)	(\$9,720 - \$10,830)	(\$7,920 - \$8,610)
<b>ZBS (zirconium basic sulphate)</b>	<b>33%</b>	<b>\$1,770</b>	<b>\$6,000</b>	<b>\$4,800</b>	<b>\$4,180</b>
(100% ZrO <sub>2</sub> basis)	100%	(\$5,360)	(\$18,180)	(\$14,550)	(\$12,580)
<b>ZBC (zirconium basic carbonate)</b>	<b>40%</b>	<b>\$2,100</b>	<b>\$5,400</b>	<b>\$5,300</b>	<b>\$4,500</b>
(100% ZrO <sub>2</sub> basis)	100%	(\$5,250)	(\$13,500)	(\$13,250)	(\$11,250)
<b>Fused Zirconia</b>	<b>98.50%</b>	<b>\$2,900 - \$3,100</b>	<b>\$6,000 - \$7,000</b>	<b>\$6,000 - \$7,000</b>	<b>\$5,500 - \$7,000</b>
<b>Chemical Zirconia</b>	<b>99.50%</b>	<b>\$4,200 - \$4,400</b>	<b>\$10,000 - \$12,000</b>	<b>\$10,000 - \$12,000</b>	<b>\$10,000 - \$12,000</b>
<b>Chemical Zirconia</b>	<b>99.90%</b>	<b>\$5,300 - \$5,500</b>	<b>\$12,000 - \$15,000</b>	<b>\$13,000 - \$15,000</b>	<b>\$12,500 - \$14,000</b>

Source: TCMS

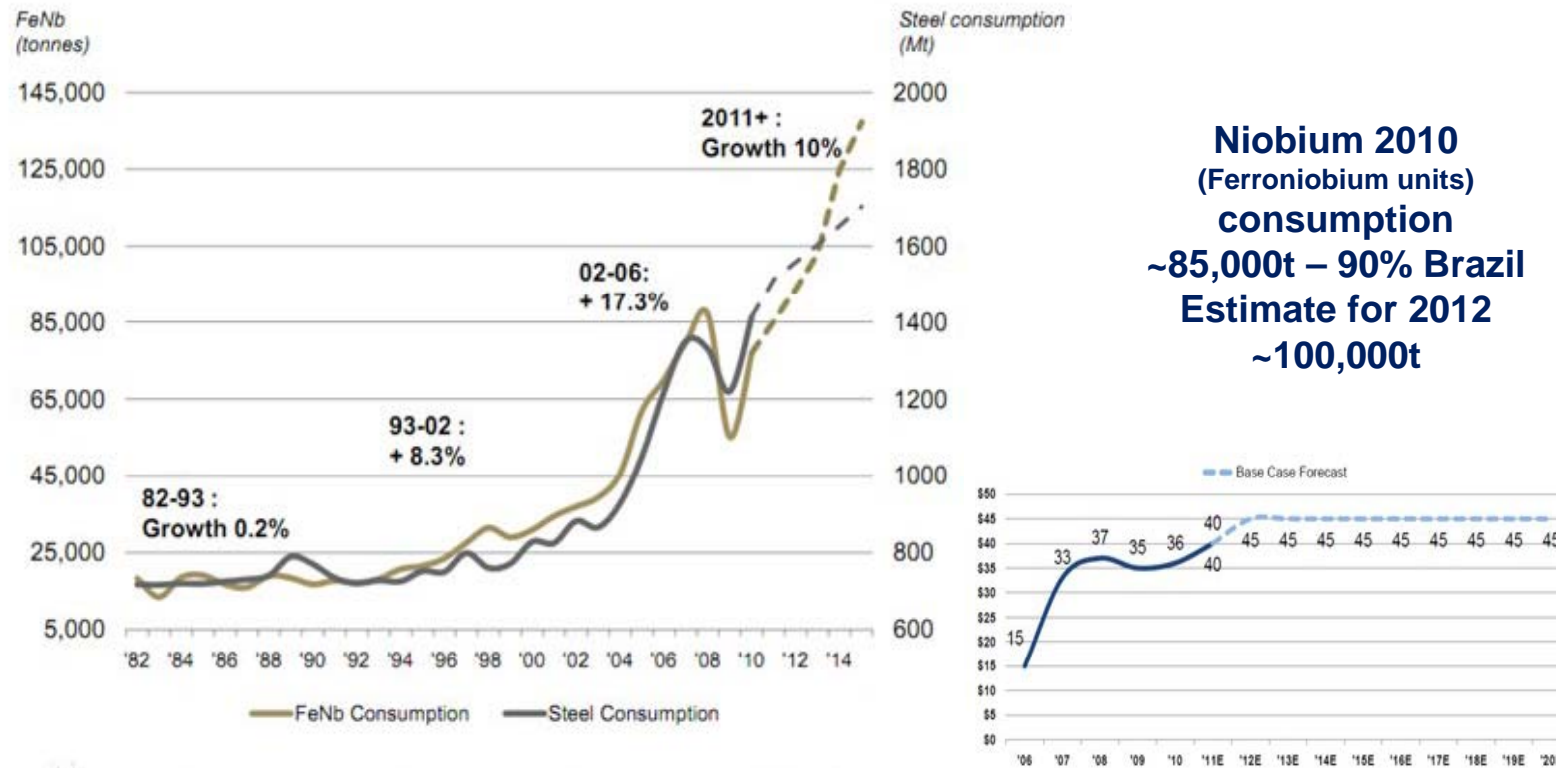
**Averaged quarterly prices as compiled from multiple sources**

**Source: TCMS**





# Niobium Demand and Price



**Niobium 2010  
(Ferroniobium units)  
consumption  
~85,000t – 90% Brazil  
Estimate for 2012  
~100,000t**

**Ferroniobium price spiralled to US\$60/kg in March 07 and is currently around US\$40 - 45/kg**

*Sources: IAMGOLD / TZMI*



## Rare Earths Prices (US\$/kg FOB China REO)

Source: Metal Pages© Numbers have been rounded

Light Rare Earth	DZP Distribution	Q2 2010 Average	Q4 2010 Average	Q1 2011 Average	Q2 2011 Average	Q3 2011 Average	Q4 2011 Average
Lanthanum Oxide	19.51%	\$7.13	\$53.00	\$75.00	\$138.00	\$128.00	\$64.00
Cerium Oxide	36.70%	\$5.58	\$50.00	\$77.00	\$138.00	\$126.00	\$56.00
Praseodymium Oxide	4.05%	\$30.60	\$77.00	\$118.00	\$215.00	\$242.00	\$204.00
Neodymium Oxide	14.12%	\$31.13	\$80.00	\$125.00	\$253.00	\$313.00	\$235.00
Samarium Oxide	2.20%	\$4.50	\$34.00	\$69.00	\$120.00	\$128.00	\$92.00
<b>Heavy Rare Earth</b>							
Europium Oxide	0.07%	\$521.67	\$625.00	\$723.00	\$1867.00	\$5133.00	\$3783.00
Gadolinium Oxide	2.15%	\$8.25	\$44.00	\$81.00	\$167.00	\$192.00	\$135.00
Terbium Oxide	0.34%	\$545.00	\$605.00	\$693.00	\$1767.00	\$3967.00	\$2938.00
Dysprosium Oxide	2.05%	\$196.67	\$295.00	\$405.00	\$983.00	\$2433.00	\$1973.00
Ho, Er, Tm, Yb, Lu	2.89%						
Yttrium Oxide	15.84%	\$11.42	\$56.00	\$93.00	\$158.00	\$172.00	\$128.00
DZP LREE	76.68%	\$12.06	\$57.20	\$81.00	\$163.00	\$167.00	\$100.00
DZP YHREE	23.32%	\$42.23	\$78.70	\$119.00	\$240.00	\$421.00	\$327.00
DZP LREE Concentrate		\$8.44	\$40.00	\$61.00	\$114.00	\$117.00	\$70.00
DZP YHREE Concentrate		\$29.59	\$55.00	\$83.00	\$168.00	\$295.00	\$229.00

DFS  
Sept  
2011

.....  
\$30  
\$68

Compiled by IMCOA

These prices are for individual separated rare earth oxides at 99% purity, and the actual value for DZP concentrates will depend on market acceptance of the concentrate, but for this table 70% of the value has been assumed. The prices quoted above are averaged for the full quarter.

**Prices used in Sept 2011 feasibility study are substantially below current prices**

**Source: IMCOA**

Rare Earth Distribution in Deposit				
Light Rare Earth	ppm	%	~ Tonnes available at 1Mtpa	@ 50% recovery
Lanthanum Oxide	1799	19.51%	1800	900
Cerium Oxide	3393	36.70%	3390	1700
Praseodymium Oxide	373	4.05%	370	180
Neodymium Oxide	1302	14.12%	1300	650
Samarium Oxide	203	2.20%	200	450
<b>Heavy Rare Earth</b>				
Europium Oxide	6	0.07%	6	3
Gadolinium Oxide	198	2.15%	200	100
Terbium Oxide	31	0.34%	30	15
Dysprosium Oxide	189	2.05%	190	95
Holmium Oxide	39	0.42%	} 265	} ?
Erbium Oxide	107	1.16%		
Thulium Oxide	15	0.16%		
Ytterbium Oxide	92	1.00%		
Lutetium Oxide	13	0.14%		
Yttrium Oxide	1460	15.84%	1450	700
LREE	7070	76.68%	7060	actual 3050
YHREE	2150	23.32%	2140	actual 1120
<b>TOTAL</b>	<b>9220</b>	<b>100.00%</b>	<b>9220</b>	<b>actual 4170</b>

Tonnage based upon recoveries developed from mass balances of the demonstration pilot plant, and process optimisation to improve recoveries is continuing

## 1.0Mtpa Throughput

- 39% of revenue – Zirconium
- 22% of revenue – Niobium
- 21% of revenue – LREE
- 18% of revenue – YHREE

Anticipated Production & Revenues (1.0Mtpa)					
Products	Price/kg predicted	Price/kg used	Production / Sales	Revenues	Revenue %
Zirconium	US\$10 - 15	US\$10.60	15,700tpa	A\$196M	39%
Niobium	US\$42 - 45	US\$45	3,005tpa	A\$111M	22%
LREE concentrate	US\$40	US\$30	3,050tpa	A\$108M	21%
YHREE concentrate	US\$55	US\$68	1,120tpa	A\$90M	18%
<b>TOTAL</b>			<b>22,875tpa</b>	<b>A\$504Mpa</b>	<b>100%</b>

Tonnage based upon recoveries developed from mass balances of the demonstration pilot plant, and revenues based upon flat long term pricing and an exchange rate of A\$:US\$ of 0.85. Numbers are rounded. Product prices predicted Q2 2011 average

- Zirconium Products - ZBS = zirconium basic sulphate; ZOH = zirconium hydroxide; ZOC = zirconium oxychloride Equivalent ~99% ZrO<sub>2</sub> + HfO<sub>2</sub>
- Nb-Ta conc / FeNb = ~70% Nb<sub>2</sub>O<sub>5</sub> basis
- LREE = Light Rare Earths (La, Ce, Nd, Pr)
- YHREE = Yttrium & Heavy Rare Earths (Y, Gd, Dy, Tb)

## Offtake

- Zirconium (39% of revenue) – 100% under MOU
- Niobium (22% of revenue) – 100% under MOU
- LREE (21% of revenue) – advanced negotiations
- YHREE (18% of revenue) – advanced negotiations
- Throughput – there are four MOU’s which virtually guarantee production at 1Mtpa
- Revenue – the four MOU’s represent an estimated annual income of US\$260M

Memorandums of Understandings (MOU's)			
MOU	Date Announced	Product	Details
1	16 May 2011	Zirconium	Leading chemical company & trading company to produce zirconium oxychloride
2	26 July 2011	Zirconium	JV with Australia’s Mintech Chemical Industries to produce zirconium oxychloride
3	15 August 2011	Zirconium	JV with leading European manufacturing / trading company to market DZP products
4	26 October 2011	Niobium	European company to produce and market ferro-niobium

- Primary filter cake contains ~ 200ppm Ta<sub>2</sub>O<sub>5</sub>. At 1Mtpa this equates to about 200tpa (>400,000lbs pa ). A program has commenced to review recovery of this valuable Ta<sub>2</sub>O<sub>5</sub> product

## Definitive Feasibility Study

- Base case – 0.4Mtpa (superseded)
- Current case – 1.0Mtpa (base case)
- CAPEX – \$893M (\$751M pre-contingency)
- EBITDA – \$308Mpa (\$6B over 20 years)
- IRR – 30%
- NPV – \$1,207M
- Mine Life – initial 20 years; overall much greater

## DUBBO ZIRCONIA PROJECT Financial Summary (A\$)

Project Capacity	0.4Mtpa	1.0Mtpa
Capex – Plant <sup>1</sup>	\$278M	\$543M
Infrastructure + Owners	\$84M	\$165M
<b>SUB TOTAL</b>	<b>\$362M</b>	<b>\$708M</b>
EPCM	\$36M	\$43M
Contingency	\$72M	\$142M
<b>TOTAL</b>	<b>\$470M</b>	<b>\$893M</b>
Revenue	\$189M	\$504M
Operating Costs	\$97M	\$196M
<b>EBITDA<sup>2</sup></b>	<b>\$92M</b>	<b>\$308M</b>
<b>IRR<sup>3</sup></b>	<b>16.8%</b>	<b>30.2%</b>
<b>NPV<sup>4</sup></b>	<b>\$181M</b>	<b>\$1,207M</b>


1. Includes acid plant
2. Annual average after ramp up
3. 20 year life pre-tax
4. 20 year life after-tax

## Environmental Impact Statement – key areas of focus

- Existing land use (agriculture)
- Air quality
- Noise and vibration
- Surface and ground water
- Soil stability
- Flora and fauna
- Biodiversity
- Visibility
- Rail freight movements
- Road traffic
- Aboriginal heritage
- Natural radioactivity





		-> 2009	2010	2011	2012	2013	2014
<b>DZP</b> 	<b>Resource definition 2001 - 2002</b>	✓					
	<b>Flow sheet development 2002</b>	✓					
	Laboratory Zr – Nb 1999 – 2002	✓					
	Pilot plant Zr – Nb 2002	✓					
	Mine Plan & Scheduling 2002	✓					
	Plant Design & Engineering 2002	✓					
	Laboratory Y & REE 2009 -	✓	✓				
	<b>Demonstration Pilot Plant 2008 -</b>						
	Zr – Nb Product Distribution	✓	✓	✓	✓		
	Y - REE Product Distribution			✓	✓		
	<b>Secure Offtake Agreements</b>						
	<b>Definitive Feasibility Study</b>	2002					
	<b>Environmental Impact (EA)</b>	2000 ->					
	<b>Detailed Design</b>						
	<b>Financing / Development Consent</b>						
	<b>Construction</b>						
<b>Production</b>							

Continued product development

Detail costs for expanded development

## Disclaimer

This presentation contains certain forward looking statements and forecasts, including possible or assumed reserves and resources, production levels and rates, costs, prices, future performance or potential growth of Alkane Resources Ltd, industry growth or other trend projections. Such statements are not a guarantee of future performance and involve unknown risks and uncertainties, as well as other factors which are beyond the control of Alkane Resources Ltd. Actual results and developments may differ materially from those expressed or implied by these forward looking statements depending on a variety of factors. Nothing in this presentation should be construed as either an offer to sell or a solicitation of an offer to buy or sell securities.

This document has been prepared in accordance with the requirements of Australian securities laws, which may differ from the requirements of United States and other country securities laws. Unless otherwise indicated, all ore reserve and mineral resource estimates included or incorporated by reference in this document have been, and will be, prepared in accordance with the JORC classification system of the Australasian Institute of Mining, and Metallurgy and Australian Institute of Geosciences.

## Competent Person

The information in this presentation that relates to mineral exploration, mineral resources and ore reserves is based on information compiled by 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 presentation of the matters based on his information in the form and context in which it appears.



### Dubbo Zirconia Project – Mineral Resources

Toongi Deposit	Tonnage (Mt)	ZrO <sub>2</sub> (%)	HfO <sub>2</sub> (%)	Nb <sub>2</sub> O <sub>5</sub> (%)	Ta <sub>2</sub> O <sub>5</sub> (%)	Y <sub>2</sub> O <sub>3</sub> (%)	REO (%)	U <sub>3</sub> O <sub>8</sub> (%)
Measured	35.70	1.96	0.04	0.46	0.03	0.14	0.75	0.014
Inferred	37.50	1.96	0.04	0.46	0.03	0.14	0.75	0.014
<b>Total</b>	<b>73.20</b>	<b>1.96</b>	<b>0.04</b>	<b>0.46</b>	<b>0.03</b>	<b>0.14</b>	<b>0.75</b>	<b>0.014</b>

*These Mineral Resources are based upon information compiled by Mr Terry Ransted MAusIMM (Principal, Multi Metal Consultants Pty Ltd) who is a competent person as defined in the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Terry Ransted consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. The full details of methodology were given in the 2004 Annual Report.*

### Dubbo Zirconia Project – Ore Reserves

Toongi Deposit	Tonnage (Mt)	ZrO <sub>2</sub> (%)	HfO <sub>2</sub> (%)	Nb <sub>2</sub> O <sub>5</sub> (%)	Ta <sub>2</sub> O <sub>5</sub> (%)	Y <sub>2</sub> O <sub>3</sub> (%)	REO (%)
Proved	8.07	1.91	0.04	0.46	0.03	0.14	0.75
Probable	27.86	1.93	0.04	0.46	0.03	0.14	0.74
<b>Total</b>	<b>35.93</b>	<b>1.93</b>	<b>0.04</b>	<b>0.46</b>	<b>0.03</b>	<b>0.14</b>	<b>0.74</b>

*These Ore Reserves are based upon information compiled by Mr Terry Ransted MAusIMM (Alkane Chief Geologist) who is a competent person as defined in the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The reserves were calculated at a 1.5% combined ZrO<sub>2</sub>+Nb<sub>2</sub>O<sub>5</sub>+Y<sub>2</sub>O<sub>3</sub>+REO cut off using costs and revenues defined in the notes in ASX Announcement of 16 November 2011. Terry Ransted consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*