Update

Edison investment research

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Alkane Resources

Year End	Revenue (A$m)	PBT* (A$m)	EPS* (c)	DPS (c)	P/E (x)	Yield (%)
12/09	4.7	2.4	1.0	0.0	107.0	N/A
12/10	10.1	7.9	3.2	0.0	33.4	N/A
12/11e	0.1	(2.1)	(0.8)	0.0	N/A	N/A
12/12e	39.0	(14.6)	(5.4)	0.0	N/A	N/A

Note: *PBT and EPS are normalised, excluding goodwill amortisation and exceptional items. 2008-10e revenue figures include rent received, revenue from sale of assets, interest received and government grants.

Investment summary: Dubbo very robust

Media attention concerning the rare earth group of elements has dragged negative sentiment towards Alkane's flagship Dubbo Zirconia Project (DZP). Indeed, prices for the DZP basket of goods (Zr, Nb, LREE and HREE based concentrates) decreased in Q411 (resulting in a 40% and 22% decrease in LREE and HREE Dubbo concentrate prices respectively between Q311 and Q411). However, our base case valuation (A$3.02/share excluding McPhillamys value of A$0.42) is based on significantly more conservative price estimates (indicative of those seen in Q111), and, maybe surprisingly, if we apply the 'depressed' rare earth prices seen in Q411, our base case increases by 129% to A$7.05/share.

China continues to restrict supply of rare earths in 2012

China currently controls c 97% of global REE production, with only two western companies (Lynas Corp. and Molycorp) looking to produce light rare earths in the near term. These light rare earth projects, as well as continuing global economic uncertainty, have dragged down light rare earth prices to such an extent that the Chinese continue to restrict supply to stimulate prices upward again. Indeed the Chinese Ministry of Commerce (MofCom) granted 2012 rare earth export quotas totalling 24,094t or only 82% of those granted in 2011.

Tomingley – final permit due late February/early March

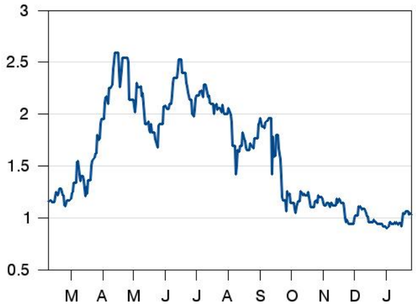
The development of the Tomingley Gold Project (TGP) is reaching the construction phase (expected mid-2012) once a final development approval is granted by the NSW government (expected mid-late Q112). Financing will require a further c A$50m raised to satisfy the c A$95m capex bill and long-lead items are being ordered with the delivery of a ball mill due around September 2012.

Valuation: Shares at remarkable discount

We adjust our previous 2011 A$2.92/share valuation based on the DZP and TGP assets into 2012 current money terms, to A$3.02 (at a 10% discount to reflect general equity risk). To this should be added A$0.42 per share for Alkane's eventual 25% stake in the McPhillamys joint venture gold project held with Newmont Australia.

Price	A$1.07
Market Cap	A$287m

Share price graph



Share details

Code	ALK
Listing	ASX
Sector	Metals and mining
Shares in issue	269m

Price

	High	Low
52 week	A$2.6	A$0.9

Balance Sheet as at 31 December 2011

Debt/Equity (%)	N/A
NAV per share (c)	16.2*
Net cash (A$m)	9.5

*estimated

Business

Alkane is a multi-commodity explorer, with projects located in the central west region of New South Wales in Australia. Alkane owns the Tomingley Gold (100%) and Dubbo rare metal and rare earths (100%) projects and has a 49% (moving to 25%) stake in the McPhillamys Gold project with JV partner Newmont Australia.

Valuation

	2010	2011e	2012e
P/E relative	N/A	N/A	N/A
P/CF	N/A	N/A	N/A
EV/Sales	N/A	N/A	N/A
ROE	N/A	N/A	N/A

Geography based on revenues (2012)

UK	Europe	US	Other
N/A	N/A	N/A	100%

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Alkane Resources is a research client of Edison Investment Research Limited

Stress testing Dubbo

While development of the Tomingley Gold Project continues unabated (with first production targeted in Q113), Dubbo remains the key determinant of Alkane's near-term share price performance. This note will focus on what the DZP is worth on a discounted dividend basis at varying prices for its basket of goods. The aim is to demonstrate that the DZP is a highly robust project, even at low concentrate prices.

REE and Zircon price trends

Exhibit 1 below shows the changes in prices for the rare earth group of elements since Q210 to Q411 and also the percentage change in prices over the period Q311 to Q411.

Exhibit 1: Historical price movements for the rare earth group of elements and effective DZP concentrate prices

Note: Q111 average prices used in our 'base case' valuation of the DZP.

Product	DZP Distribution	Q210 Average	Q410 Average	Q111 Average	Q211 Average	Q311 Average	Q411 Average	Q3- Q4 % change
Light rare earth								
Lanthanum oxide	19.5%	$7.1	$53.0	$75.0	$138.0	$128.0	$64.0	-50.0%
Cerium oxide	36.7%	$5.6	$50.0	$77.0	$138.0	$126.0	$56.0	-55.6%
Praseodymium oxide	4.1%	$30.6	$77.0	$118.0	$215.0	$242.0	$204.0	-15.7%
Neodymium oxide	14.1%	$31.1	$80.0	$125.0	$253.0	$313.0	$235.0	-24.9%
Samarium oxide	2.2%	$4.5	$34.0	$69.0	$120.0	$128.0	$92.0	-28.1%
Heavy rare earth								
Europium oxide	0.1%	$521.7	$625.0	$723.0	$1,867.0	$5,133.0	$3,783.0	-26.3%
Gadolinium oxide	2.2%	$8.3	$44.0	$81.0	$167.0	$192.0	$135.0	-29.7%
Terbium oxide	0.3%	$545.0	$605.0	$693.0	$1,767.0	$3,967.0	$2,938.0	-25.9%
Dysprosium oxide	2.1%	$196.7	$295.0	$405.0	$983.0	$2,433.0	$1,973.0	-18.9%
Ho, Er, Tm, Yb, Lu	2.9%	N/A	N/A	N/A	N/A	N/A	N/A	
Yttrium oxide	15.8%	$11.4	$56.0	$93.0	$158.0	$172.0	$128.0	-25.6%
DZP LREE	76.7%	$12.1	$57.2	$81.0	$163.0	$167.0	$100.0	-40.1%
DZP YHREE	23.3%	$42.2	$78.7	$119.0	$240.0	$421.0	$327.0	-22.3%
DZP LREE Concentrate	N/A	$8.4	$40.0	$61.0	$114.0	$117.0	$70.0	-40.2%
DZP YHREE Concentrate	N/A	$29.6	$55.0	$83.0	$168.0	$295.0	$229.0	-22.4%

Source: Alkane Resources Ltd announcement.

Exhibit 2 below shows the changes in prices for the zirconium-based products, of which the zirconium oxychloride is the preferred form sold on as part of its memorandums of understanding with off-take partners (announced throughout 2011).

Exhibit 2: Historical price movements for zirconium based products

Note: Q111 average prices used in our 'base case' valuation of the DZP.

Product	ZrO2	Q210 US$/t	Q211 US$/t	Q311 US$/t	Q411 US$/t
Zircon (producer/trader)	65%	900 - 1,150	1,700 - 2,750	2,200 - 2,800	2,100 - 2,900
(100% ZrO2 basis)	100%	1,380 - 1,770	2,620 - 4,230	3,380 - 4,310	3,230 - 4,460
ZOC (zirconium oxychloride)	36%	1,350 - 1,450	3,600 - 4,000	3,500 - 3,900	2,850 - 3,100
(100% ZrO2 basis)	100%	3,750 - 4,030	10,000 - 11,110	9,720 - 10,830	7,920 - 8,610
ZBS (zirconium basic sulphate)	33%	1,770	6,000	4,800	4,180
(100% ZrO2 basis)	100%	5,360	18,180	14,550	12,580
ZBC (zirconium basic carbonate)	40%	2,100	5,400	5,300	4,500
(100% ZrO2 basis)	100%	5,250	13,500	13,250	11,250
Fused zirconia	98.50%	2,900 - 3,100	6,000 - 7,000	6,000 - 7,000	5,500 - 7,000
Chemical zirconia	99.50%	4,200 - 4,400	10,000 - 12,000	10,000 - 12,000	10,000 - 12,000
Chemical zirconia	99.90%	5,300 - 5,500	12,000 - 15,000	13,000 - 15,000	12,500 - 14,000

Source: Alkane Resources Ltd announcement.

The prices of both light and heavy rare earths decreased from Q311 to Q411 by an average of c 35% for the light rare earth group and around 25% for the yttrium-heavy rare earth group. However, relative to the concentrate prices we used in our September 2011 update, *Dubbo DFS,* Q411 prices are c 133% and 237% higher for the LREE and Y-HREE concentrates respectively. The following exhibit gives the total value of the Dubbo Zirconium and Tomingley Gold projects based on both our conservative September 2011 prices as well as applying the Q411 prices for the LREE and Y-HREE concentrates as given in Exhibit 1:

Exhibit 3: Comparison of our A$3.02 (TGP+DZP) valuation with one using Q411 LREE & Y-HREE prices

Note: *Post ramp-up.

Concentrate	Annual DZP concentrate tonnages expected	Sept '11* concentrate prices (A$/t)	Applying Q411 'depressed' REE prices
ZOC	15,700	12,471	12,471
FeNb (cont. 70% Nb)	3,005	52,941	52,941
LREE	3,050	35,294	67,200
Y-HREE	1,120	80,000	219,840
Total		180,706	352,452
Total annual revenue* (A$m)		504,397	757,967
DZP/TGP Value A$/share	N/A	3.02	7.05

Source: Edison Investment Research

The outcome of this analysis clearly demonstrates the very robust nature of the DZP. Furthermore the A$7.05 per share valuation resulting from using Q411 'depressed' prices demonstrates a situation where, in fact, Alkane's flagship project is more undervalued than when compared with our September 2011 valuation. We would also state that current macroeconomic uncertainty has dragged significant negative sentiment over the markets in general, and negativity towards rare earths (although clearly unwarranted based on this analysis) is only a part of Alkane's recent poor share price performance.

Sensitivity: Further evidence of the DZP's viability

The following exhibits provide a view on the value of the DZP project in relation to a percentage change in the price of its rare earth and zirconium-based concentrates. We provide a sensitivity analysis for changes in the price of the LREE and Y-HREE concentrates separately (with the LREE only sensitivity providing a proxy to an oversupply of light rare metal onto the market as Lynas Corp and Molycorp ramp up their respective LREE projects in coming years).

Exhibit 4: Sensitivity based on a percentage change in 'base case' LREE prices only

Note: ZOC and FeNb concentrate prices held constant as per Exhibit 3.

% change	-30	-20	-10	0	10	20
NPV_{10} per share	2.55	2.7	2.96	**3.02**	3.18	3.34

Source: Edison Investment Research

Exhibit 5: Sensitivity based on a percentage change in 'base case' Y-HREE prices only

Note: ZOC and FeNb concentrate prices held constant as per Exhibit 3.

% change	-30	-20	-10	0	10	20
NPV_{10} per share	2.6	2.74	2.88	**3.02**	3.16	3.3

Source: Edison Investment Research

From the above sensitivity analyses it can be seen that, approximately, for every 10% change in either the LREE or Y-HREE concentrate price there is a corresponding A$0.14 (4.5%) change to our base case valuation (DZP&TGP) of A$3.02per share.

Exhibit 6: Sensitivity based on a percentage change in 'base case' LREE & Y-HREE prices

Note: ZOC and FeNb prices held constant as per Exhibit 3.

% change	-30	-20	-10	0	10	20
NPV_{10} per share	2.13	2.42	2.72	**3.02**	3.32	3.62

Source: Edison Investment Research

Exhibit 6 demonstrates that if both light and heavy rare earth prices were to change (highly unlikely considering the difference in scarcity between the two), for every 10% change in both light and heavy rare earth concentrate prices would equate to a change in our A$3.02 per share valuation of around A$0.30 or 9.6%.

Exhibit 7: Sensitivity based on a percentage change in 'base case' zircon prices

Note: LREE. Y-HREE and FeNb concentrate prices held constant as per Exhibit 3.

% change	-30	-20	-10	0	10	20	30
NPV_{10} per share	2.16	2.44	2.73	**3.02**	3.31	3.60	3.89

Source: Edison Investment Research

The DZP, as its full name suggests, is primarily a zirconium-producing project, so it is of no surprise that the biggest change in our valuation is pinned to a change in zircon based product prices. As can be seen from Exhibit 7, a 10% change in price equates to a c A$0.27 (9.2%) change in our base case (DZP and TGP) valuation.

DZP commodity outlook and final REE MoUs

Alkane expects to finalise the off-take agreements for its light and yttrium-heavy rare earth concentrates by end-Q112. Alkane's management has stated that it has received offers from a number of primary candidates and will now screen these for most profitable and strategic partner. This situation demonstrates the high level of interest and oversubscription for the DZP rare earth-based concentrates. These off-take agreements may well also include some aspect of the DZP's funding requirement, with partners potentially investing in the DZP (either via loan or equity subscription) alongside securing the concentrates for separation into their constituent rare earth metals and subsequent sale.

Zircon – current demand flat but outlook robust

During 2011 zircon prices rose significantly as demand outstripped supply (zircon as a refractory in ceramic manufacturing – a major use – does not have an equal substitute). However, further instability in the global macroeconomic outlook towards the end of 2011 into 2012 has had a obvious negative impact on the markets. If the second half of 2012 indeed sees the starting point of a recovery, then in all likelihood this will also result in a resurgence of commodity prices and a rebound in DZP projected zircon based (as well as its other product) revenues.

Lynas and Molycorp LIGHT rare earth projects

Note that the well-publicised development of these two projects may depress light rare earth prices further as ramp-up in production from them over the coming years potentially floods the market with more common light rare earth metals. The DZP projected annual revenue stream includes only c 21% derived from LREEs, and further, that the heavy rare earth elements look to remain in very tight supply as very few known deposits containing appreciable proportions of these metals exist, and even fewer are in development outside of China.

The Tomingley Gold Project – nearing construction

Tomingley Gold – not core, still c 60koz, eight-yr LOM gold project

On its own, the TGP would support a small junior mining company but, as it stands within Alkane's asset portfolio, it is dwarfed by the value of the DZP. Alkane is now only waiting for final development approval by the New South Wales government, which it expects to receive late February or early March 2012. Also, long-lead items have already started to be ordered, with a ball mill under construction and due for delivery to the TGP in September 2012. Initial gold production is expected at the project during Q113.

Caloma drilling to increase resource confidence

The TGP will mine a gold resource totalling c 660,000ozs across three deposits: Wyoming One, Wyoming Three and Caloma over eight years. The first six years will be via an open pit operation, with the final two a combination of both open pit and underground. Recent drilling completed within the planned Caloma open pit design was intended to increase the confidence factor of the Caloma resource (by converting inferred ounces into indicated and also increase the amount of reserve ounces available to mine). A further resource/reserve estimate will be released in due course.

Caloma Two – potential for further resources

Additional drilling undertaken at the Caloma Two deposit has provided Alkane with enough favourable drill results to confirm a total deposit strike length of at least 300m. Further, it is intended that the 'significant mineralisation' intersected at Caloma Two would support an identified mineral resource and potentially increase the scope of production at the TGP (either in terms of annual production or longevity).

Bodangora – porphyry style copper-gold

Worth mentioning alongside the TGP is another of Alkane's exploration projects, Bodangora, located 15km north-east of Wellington in the Central West of New South Wales. A recent RC drill programme completed over the area has provided Alkane geologists with the first tentative signs of a promising porphyry style copper-gold deposit. Of note is that drill hole COMRC009 intersected 46m grading 0.9g/t gold and 0.25% copper, including 18m grading 1.7g/t gold and 0.45% copper. Two further diamond drill holes have been completed with results due in the next few weeks. Additional drilling is also scheduled over this deposit in 2012 to further test the limits of this mineralisation but, for now, it demonstrates that within Alkane's existing tenement packages (in which lie the TGP and DZP in New South Wales) exists the potential for even further economically viable deposits to be discovered.

Financials

As at end December 2011, Alkane had cash of A$9.52m (vs Q311 cash of A$13.21m) indicating a quarterly cash burn of c A$3-4m, with Q112 company expenditures forecast at around A$5.55m (comprising A$3.00m on exploration, A$1.80m on TGP pre-development works and A$0.75m administrative costs). On receipt of the final development approval (due late February to early March 2012) the company will then start constructing the TGP. On finalising its finance agreements arranged and underwritten with Credit Suisse (see 20 April 2011 company announcement), Alkane will draw down a A$45m loan facility and gold hedging facility of up to 163,000ozs (total TGP recoverable ounces over life of mine is 369,261). These funds are sufficient to start constructing the TGP, although a further c A$50m is required to bring the project to full production. This may well be secured via an imminent equity raising. Also, these facilities will not prevent the DZP being financed separately (expected to be finalised by early 2013), nor will the DZP be subject to the security provisions of the TGP facility.

DZP capex in 2012

Our base case A$3.02 valuation is based on 100% debt funding with A$49.9m of capital expenditure in 2012 to bring the TGP into production by Q113, with A$446.5m (half of the total required, with the rest scheduled in 2013) expended as part of the first phase of developing the DZP. We await further clarification on exactly what mix of debt, equity (either in Alkane resources or the holding company for the DZP – Australian Zirconium) and off-take partner loan facilities will be agreed and then factor these in to our valuation. We expect this to occur after finalisation of the rare earth concentrate MoUs expected by end-Q112. We will then look to adjust or capital expenditure profile accordingly.

Exhibit 8: Financials

Note: 2012 capex includes DZP development capital of A$446.5m, which may change on further clarification of this project's funding post Q112.

A$'000s	2009	2010	2011e	2012e
Year end 31 December	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS				
Revenue (includes FY09 & FY10 gain on sale of investments)	4,714	10,116	68	38,993
Cost of Sales	0	0	0	(25,891)
Gross Profit	4,714	10,116	68	13,102
EBITDA	2,249	7,642	(2,003)	7,947
Operating Profit (before GW and except.)	2,200	7,593	(2,130)	(14,746)
Intangible Amortisation	0	0	0	0
Exceptionals/discontinued	(130)	(130)	0	0
Other	0	0	0	0
Operating Profit	2,071	7,463	(2,130)	(14,746)
Net Interest	227	326	68	143
Profit Before Tax (norm)	2,427	7,919	(2,062)	(14,603)
Profit Before Tax (FRS 3)	2,298	7,789	(2,062)	(14,603)
Tax	0	0	0	0
Profit After Tax (norm)	2,427	7,919	(2,062)	(14,603)
Profit After Tax (FRS 3)	2,298	7,789	(2,062)	(14,603)
Average Number of Shares Outstanding (m)	245.8	249.0	259.0	269.0
EPS - normalised (c)	0.99	3.18	(0.80)	(5.43)
EPS - FRS 3 (c)	0.49	1.59	(0.40)	(2.71)
Dividend per share (c)	0.0	0.0	0.0	0.0
Gross Margin (%)	100.0	100.0	100.0	33.6
EBITDA Margin (%)	47.7	75.5	N/A	20.4
Operating Margin (before GW and except.) (%)	46.7	75.1	N/A	N/A
BALANCE SHEET				
Fixed Assets	33,574	41,849	54,212	538,658
Intangible Assets	31,994	39,266	49,956	60,646
Tangible Assets	1,084	2,071	3,744	477,500
Investments	496	512	512	512
Current Assets	10,980	4,995	9,524	5,966
Stocks	0	0	0	3,238
Debtors	221	438	0	2,726
Cash	4,832	4,555	9,521	0
Other available for sale financial assets	5,928	3	3	3
Current Liabilities	(710)	(1,090)	(94)	2,034
Creditors	(638)	(997)	0	2,128
Short term borrowings	(72)	(94)	(94)	0
Long Term Liabilities	(146)	(186)	(186)	(497,804)
Long term borrowings	0	0	0	(497,618)
Other long term liabilities	(146)	(186)	(186)	(186)
Net Assets	43,699	45,568	63,457	48,854
CASH FLOW				
Operating Cash Flow	(552)	(1,525)	(1,802)	616
Net Interest	227	326	68	143
Tax	0	0	0	0
Capex	(8,903)	(8,831)	(13,250)	(507,899)
Acquisitions/disposals	4,071	9,587	0	0
Financing	1,665	166	19,950	0
Dividends	0	0	0	0
Net Cash Flow	(3,492)	(277)	4,967	(507,140)
Opening net debt/(cash)	(8,324)	(4,832)	(4,555)	(9,521)
HP finance leases initiated	0	0	0	0
Other	0	0	0	0
Closing net debt/(cash)	(4,832)	(4,555)	(9,521)	497,618

Source: Edison Investment Research, company accounts