EDISON

Alkane Resources

Q216 and H116 results

Gold production on target, costs within budget

Metals & mining

Alkane reports a second cash flow-positive quarter after the high amounts of waste required to be mined during H215 made the TGO cash flow negative. Gold production remains on track for 60-70koz by end FY16, with AISC costs in a range of A$1,200-1,300/oz ytd. Costs compare to an Australian dollar gold price of c A$1,570/oz. Progress on developing the DZP is also highlighted, with the key mining lease achieved during the quarter. We maintain our view that the DZP, through its diversified product suite and very advanced stage of engineering and product offtake arrangements, remains the strongest non-Chinese contender for exposure to the strategically important REE (and other speciality metals) space.

Year end	Revenue (A$m)	PBT* (A$m)	EPS* (c)	DPS (c)	P/E (x)	Yield (%)
06/14	35.5	3.4	(0.4)	0.0	N/A	N/A
06/15	101.8	0.1	1.0	0.0	22.0	N/A
06/16e	101.6	(6.5)	(1.6)	0.0	N/A	N/A
06/17e	101.5	(19.5)	(1.8)	0.0	N/A	N/A

Note: *PBT and EPS normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments. DZP revenues and capex delayed by one year to FY18.

TGO: AISC costs up q-o-q, but guidance still intact

During Q216 the TGO produced 15,347ozs (Q1: 19,789ozs) of gold at an AISC production cost of A$1,316/oz, up 6.6% over Q116 (A$1,234/oz) and sold 14,250ozs at an average gold price of A$1,583/oz (Q1: 21,000ozs at an average gold price of A$1,565/oz). Revenues continue to be aided by the US$/A$ exchange, which saw the A$ strengthen 4.2% from US$0.70 to US$0.73 during Q216. The TGO post-development capex and opex maintained positive cash flow of A$2.45m. Alkane's FY16 guidance of 60-70koz of gold produced remains intact (we forecast 69koz), with H116 gold production totalling 35,136ozs.

DZP: financing news to follow next few quarters

The DZP mining lease was awarded during the quarter and land purchases totalling A$3.7m were also made, in our view highlighting Alkane's confidence in financing the project. The DZP continues to be advanced, whether due to finalising offtake agreements or the significant background engineering works being undertaken by early contractor involvement partner, Outotec. All the while, juniors centred on REE project development contracts, leaving REE offtakers with even fewer options.

Valuation: TGO underground assumptions refined

We adjust our valuation for H116 TGO production data. We also refine our existing TGO underground (UG) production schedule such that its 62koz UG reserve base is fully exhausted, as well as mining inferred material and processing low-grade stockpiles from FY18-22. We have also pushed out our DZP financing and capex assumptions one year to FY17 to allow Alkane to finalise its financing arrangements for this project. In addition, we include A$20m in UG development capex funded under our current assumption purely via bank debt. On this basis, our fully-diluted valuation at a 10% discount rate is A$1.09 (previously A$1.13, see page 5).

1 February 2016

Price	**A$0.22**
Market cap	**A$91m**
	US$/A$0.70
Net cash (A$m) at end December 2015	14.8
Shares in issue	414.2m
Free float	74%
Code	ALK
Primary exchange	ASX
Secondary exchange	OTCQX

Share price performance

%	1m	3m	12m
Abs	(4.4)	(10.4)	(12.2)
Rel (local)	(0.1)	(4.2)	(3.7)
52-week high/low		A$0.4	A$0.2

Business description

Alkane Resources is a multi-commodity explorer and developer, with projects in the central west region of New South Wales in Australia. It owns the Tomingley Gold Operation and DZP rare metal and rare earths projects (both 100%). TGO entered production in January 2014 and DZP is currently planned for first production during FY18.

Next event

Q316 results	April 2016

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Edison profile page

Alkane Resources is a research client of Edison Investment Research Limited

Progress continues unabated

Back during the rare earth bubble of 2011, while the market was in hot pursuit of exposure to rare earth elements (REEs), Alkane's strategy to develop a A$1,000/oz (C3-equivalent) gold mine was met with some scepticism in the market. Now, five years later, Alkane's gold mine provides it with cash without diluting its shareholders, to invest not only in extending that mines life and exploring its highly prospective land packages nearby, but also providing pre-development investment into its flagship DZP.

Other than for exploration activities (which, though certainly worthwhile progressing, we view as non-core in the current market), the following sections provide development highlights relating to the TGO and DZP.

TGO – UG development to start by end CY16 (end H117)

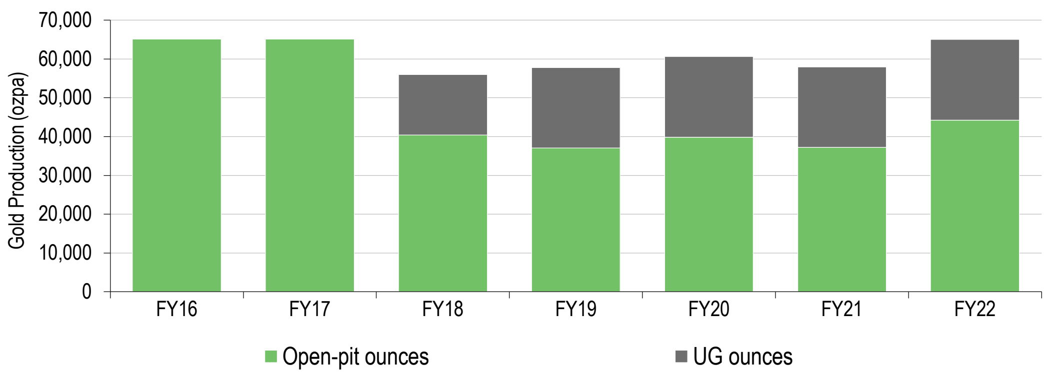
A maiden underground reserve estimate of 61.6koz of gold has been declared for the TGO, paving the way for our long-held assumption for the underground mining phase at the project. Alkane's financial assessment indicates that an additional 47.7koz of inferred gold should be extracted, which are incidental to mining the reserves. This is supported by empirical data from the existing open-pit mine of the same deposits that indicate conversion of 100% of inferred ounces to mineable reserves, as well as the fact that the TGO mined an additional 41% of gold ounces at Wyoming Three, compared to the initial resource block model.

Since the TGO DFS was completed on the Wyoming One, Wyoming Three and Caloma deposits in 2010, which stated an initial 7.5-year mine life extracting c 369koz of gold, Alkane has drilled and added further ounces at the Caloma Two deposit to its resource inventory. Coupled with Caloma Two resources and these new underground reserves, the TGO's mine life should now be in excess of 10 years at current production rates. Further expansion of the UG resource/reserve base is likely as and when drilling can take place from more advantageous drill positions underground.

Underground funding via debt – no dilution at current share price levels

Alkane will initiate the underground development phase of the TGO by end CY16 pending successful debt funding of the initial development capex of A$20m. The company states that in the current market, raising equity will not take place unless a significant uptick in its share price occurs. Our DDF model demonstrates positive cash flows are maintained with this debt included at current gold prices and costs of production levels. This scenario has been performed without any DZP funding assumptions included.

Exhibit 1: Revised life-of-mine TGO gold production profile (FY16-22e)



Source: Edison Investment Research

Alkane guides that first UG production will commence nine months after the start of developing a portal from the Caloma open pit and last for 2.75 years or 33 months. However, as stated above, production is likely to continue beyond this time frame, which is based solely on defined JORC-compliant ore reserves. We have therefore taken a view based on the fact that open-pit production has exceeded geostatistical resource estimates as a key reason to include mining a further 48koz of gold. This is the amount of gold Alkane has estimated in the inferred category for the UG mine phase, but which for regulatory reasons it has not been able to include in its UG mine plans. Based on the UG mine producing 20koz of gold pa, the 48koz of inferred gold extends the UG phase by a little over two years. Therefore, in our assumptions we forecast UG mining to extend to FY22. We expect Alkane to make use of far more advantageous drill positions to delineate further UG reserves as and when these positons become available for use. Our new TGO life-of-mine gold production profile is given in Exhibit 1.

The following exhibit details ytd production and cost metrics for the TGO, plus our forecasts quarter-by-quarter to year end.

Exhibit 2: TGO H116 actual and forecast H216 production, stockpile and cost data

Production		Q116	Q216	Q316e	Q416e	FY16e
Waste mined	BCM	1,676,850	1,447,753	1,895,545	1,895,545	6,915,693
Implied strip ratio	waste:ore	3.78	5.23	12.61	12.61	7.6
Ore mined	Tonnes	443,744	277,061	225,553	225,553	1,171,910
Ore grade	g/t	1.87	1.84	1.86	1.86	1.86
Ore milled	Tonnes	271,980	257,998	320,966	320,966	1,171,910
Head grade	g/t	2.44	1.93	2.19	2.19	2.19
Recovery	%	92.6%	91.4%	92.0%	92.0%	92.0%
Gold recovered	Ounces	19,789	15,347	17,395	17,395	69,926
Gold sold	Ounces	21,000	14,250	15,000	14,750	65,000
Gold revenue	A$m	32.9	22.6	23.2	23.0	101.6
Implied realised gold price/ actual	A$/oz	1,565	1,583	1,545	1,557	1,563
Cost of sales	A$m	21.85	17.89	20.28	20.28	80.31
AISC operating cost	A$/oz	1,234	1,316	1,250	1,250	1,263
Gross margin	%	26.8%	20.3%	23.6%	24.6%	23.8%
Operating profit margin	%	50.6%	26.3%	14.3%	13.2%	26.1%
Stockpiles and bullion on hand						
Ore for immediate milling	Tonnes	678,681	698,744	698,744	698,744	698,744
Bullion on hand	Ounces	1,951	3,040	3,040	3,040	3,040
Value of bullion on hand (based on implied gold price above)	A$m	3.05	4.81	4.81	4.81	4.81
Stockpile grade	g/t Au	0.95	0.94	0.94	0.94	0.94
Contained gold in stockpiles	oz	20,735	21,155	21,155.0	21,155.0	21,155
Value of stockpiled gold ounces at quarter's average price	A$m	32.5	33.5	33.5	33.5	33.49
Detailed cost summary						
Mining	A$/oz	784	731	731	731	744
Processing	A$/oz	242	322	322	322	302
Site support	A$/oz	78	113	113	113	104
C1 site cash costs	A$/oz	1,104	1,166	1,166	1,166	1,151
Royalties	A$/oz	46	43	43	43	44
Sustaining capital	A$/oz	36	44	44	44	42
Rehabilitation	A$/oz	16	20	20	20	19
Corporate	A$/oz	32	43	43	43	40
AISC	A$/oz	1,234	1,316	1,316	1,316	1,296

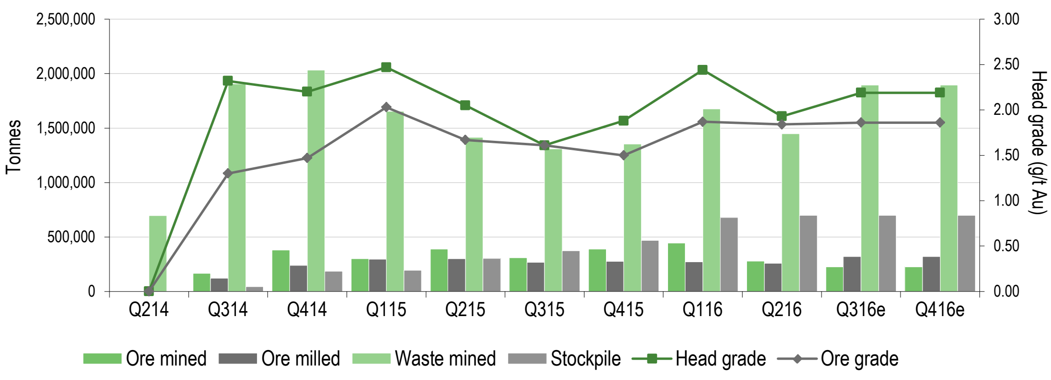
Source: Alkane Resources, Edison Investment Research

Exhibit 2 above demonstrates that if the current run rate of gold production at the TGO persists until year end, it would likely result in gold production at the top end of Alkane’s 60-70koz range. Also, if production costs were to be maintained at Q216 levels (A$1,316/oz), it would still manage to bring its average AISC production cost just within budget at A$1,296/oz (Alkane’s guidance on AISC costs for FY16 is A$1,200-1,300/oz).

However, we note that, based on our forecasts above, the milled head grade would need to increase 13% from Q216 levels but, considering the average for the TGO so far is 2.11g/t, we do not consider this a major concern and Alkane's site management should be able to achieve its stated gold production target through managing throughput (ie tonnage milled) if the gold grade persists at Q216 levels.

The following exhibit is a graphical representation of historical production volumes and grades at the TGO from the start of mining during Q214 through to Q216, plus our estimates for Q3-Q416, to achieve a gold production target of 69koz, with 65koz of gold sold.

Exhibit 3: TGO production volumes by area plus grade data from mining start-up in Q214



Source: Alkane Resources, Edison Investment Research

DZP – land purchases and engineering works advance

Alkane continues to advance the DZP in terms of pre-development engineering designs, commercialising its memoranda of understanding and purchasing land required to develop the DZP. The main points of progress are:

- Major mining services company Outotec is involved in discussions with Alkane over equipment supply, technology application and construction methodology. This early contractor involvement (ECI) is a known advanced step in pre-developing a mining project, is crucial to making sure that all critical path elements are properly optimised before financing, and allows for the main procurement and construction phases to start.
- Financing arrangements (undertaken by Alkane's wholly owned subsidiary Australian Zirconia, AZL) are said to be continuing and, if a 2018 production start is still to be met, we would expect some more concrete newsflow on financing participants for the DZP's A$1.3bn initial development capex to occur through the rest of 2016. This is obviously the key risk to the successful development of the DZP. Alkane maintains that financing will involve a mixture of debt, equity, strategic partner involvement and Export Credit Agency funding. We delay the timing of our assumed A$194m net equity raise (at a share price of A$0.30) from FY16 to FY17. Please see our October 2015 update note for further details on this issue.
- Work on the hafnium recovery circuit has continued, along with corresponding improvements in zirconia quality. The improved zirconia product specifications are being finalised and communicated with potential offtakers.
- Refining the toll treatment of the REE concentrates into separated REE oxides also continued during the quarter.
- Alkane made progress on Zirconium marketing with a leading European manufacturing and trading company. This centred around the conversion of the existing memorandum of

understanding into an agreement for marketing all of the DZP's zirconium products on a worldwide basis.

Valuation – down to capex (UG and DZP rescheduling)

We adjust our valuation for H116 TGO production data. We also refine our existing underground production schedule such that both Alkane's announced 62koz UG reserve base is fully exhausted from H218 to FY20, along with current stockpile levels blended in with this and open-pit ore during the same time period. We also note that UG gold production is likely to be above modelled estimates – akin to current open-pit ROM to reserve reconciliations. We also include A$20m in UG development capex funded under our current assumption purely via bank debt and push out DZP financing and capex assumptions to FY17 (previously FY16) to account for Alkane's ongoing DZP financing negotiations. On this basis, our fully diluted SOTP valuation at a 10% discount rate is A$1.02. Exhibit 4 below details the breakdown of this SOTP valuation and compares it to our previous valuation, published in our October 2015 update note.

Exhibit 4: Edison SOTP valuations, October 2015 and January 2016

Asset	Oct 2015 (A$/share)	Jan 2016 (A$/share)
TGO	0.15	0.15
DZP	0.94	0.90
Cash	0.04	0.04
Total	1.13	1.09

Source: Edison Investment Research

Our valuation is based on a dividend discount approach and therefore discounts all free cash from operations in the form of theoretical dividend payments using a 10% discount rate to reflect general equity risk. Our DDF-based model includes Alkane's current financing strategy for the DZP (see our October 2015 update note), as well as debt funding for the TGO UG phase and a new DZP working capital facility totalling A$4m (see following financials section for our treatment of these items).

Note that the above valuation is post-dilution. If the DZP is not successfully developed and we remove all financing assumptions and dilution for this project, Alkane's shares, based on gold production from the TGO only, are worth A$0.36.

Financials

Alkane's cash position at end H116 was A$14.764m. We expect gold production to come in at the top of its 60-70koz gold production target at end FY16 and we forecast AISC costs to be at the upper end of guidance at A$1,296/oz. We forecast total FY16 exploration expenditure (which includes DZP development expenditures) of A$8.0m (H116: A$4.0m) and include A$3.7m in land purchases and a A$4m working capital facility (treated as debt, repaid over five years starting in FY19, bearing 10%) relating to the DZP. We also include A$20m in UG development capex for the TGO and assume this is met by debt repaid over five years bearing 10%, starting in FY19 as UG production is firmly bedded down.

On this basis, we estimate that Alkane will finish FY16 with cash of A$18.5m.

Note that our end FY17e net debt position (A$517m) has reduced materially from the A$928m in our last note (published in October 2015). This is due to delaying all financing assumptions for the DZP by one year to FY17, with first production resulting in maiden DZP revenues starting in FY18 (previously FY17). This is in line with Alkane's current DZP project development timeline.

Exhibit 5: Financial summary

A$'000s	2013	2014	2015	2016e	2017e
Year end 30 June	IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS					
Revenue	100,753	35,474	101,813	100,783	101,520
Cost of Sales	0	(25,692)	(74,809)	(80,307)	(63,131)
Gross Profit	100,753	9,782	27,004	20,477	38,389
EBITDA	88,339	3,890	26,478	20,254	38,211
Operating Profit (before GW and except.)	88,172	3,890	(79)	(6,676)	(19,681)
Intangible Amortisation	0	0	0	0	0
Exceptionals/discontinued	(99,024)	(4,798)	(8,211)	0	100,000
Other	0	0	0	0	0
Operating Profit	(10,852)	(908)	(8,290)	(6,676)	80,319
Net Interest	4,980	(471)	153	223	178
Profit Before Tax (norm)	93,152	3,419	74	(6,453)	(19,503)
Profit Before Tax (FRS 3)	(5,872)	(1,379)	(8,137)	(6,453)	80,497
Tax	5,989	(4,893)	4,051	0	0
Profit After Tax (norm)	99,141	(1,372)	4,125	(6,453)	(19,503)
Profit After Tax (FRS 3)	117	(6,272)	(4,086)	(6,453)	80,497
Average Number of Shares Outstanding (m)	354.6	373.7	413.4	414.2	1,061.6
EPS - normalised (c)	28.0	(0.4)	1.0	(1.6)	(1.8)
EPS - FRS 3 (c)	0.0	(1.7)	(1.0)	(1.6)	7.6
Dividend per share (c)	0.0	0.0	0.0	0.0	0.0
Gross Margin (%)	100.0	27.6	26.5	20.3	37.8
EBITDA Margin (%)	N/A	N/A	N/A	N/A	N/A
Operating Margin (before GW and except.) (%)	N/A	N/A	N/A	N/A	N/A
BALANCE SHEET					
Fixed Assets	75,365	160,174	162,624	148,113	969,170
Intangible Assets	45,278	53,406	65,251	73,251	81,251
Tangible Assets	21,093	100,032	89,787	67,276	880,333
Investments	8,994	6,736	7,586	7,586	7,586
Current Assets	109,057	40,811	28,394	37,326	15,555
Stocks	0	15,391	11,505	8,380	8,445
Debtors	3,680	4,906	1,988	7,055	7,110
Cash	64,294	15,569	14,901	21,891	0
Other available for sale financial assets	41,083	4,945	0	0	0
Current Liabilities	(9,590)	(14,726)	(11,251)	(8,126)	(523,415)
Creditors	(7,735)	(13,755)	(9,726)	(6,601)	(5,189)
Short term borrowings	0	0	0	0	(516,701)
Other	(1,855)	(971)	(1,525)	(1,525)	(1,525)
Long Term Liabilities	(135)	(12,039)	(9,265)	(9,265)	(9,265)
Long term borrowings	0	0	0	0	0
Other long term liabilities	(135)	(12,039)	(9,265)	(9,265)	(9,265)
Net Assets	174,697	174,220	170,502	168,049	452,046
CASH FLOW					
Operating Cash Flow	(12,823)	(3,508)	28,454	15,186	36,679
Net Interest	4,980	(369)	153	223	178
Tax	5,989	0	0	0	0
Capex	(57,777)	(95,281)	(32,588)	(12,419)	(878,949)
Acquisitions/disposals	10,329	40,534	3,151	0	100,000
Financing	102,566	9,800	214	4,000	203,500
Dividends	0	0	0	0	0
Net Cash Flow	53,264	(48,824)	(616)	6,990	(538,591)
Opening net debt/(cash)	(11,026)	(64,294)	(15,569)	(14,901)	(21,891)
HP finance leases initiated	0	0	0	0	0
Other	4	99	(52)	0	0
Closing net debt/(cash)	(64,294)	(15,569)	(14,901)	(21,891)	516,701

Source: Company accounts, Edison Investment Research. Note: We forecast DZP financing capex starting in FY17 including the planned sale of 10% of the DZP for A$100m recorded on the P&L. Assumes capital raise of A$194m via the issue of 647m shares at A$0.30 each.

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