

10 October, 2007

Alkane Resources Ltd (ALK)

Speculative Buy

Gold & zirconia shaping up

Alkane Resources (ALK) has been very busy over the last year, drilling at the Tomingley gold project in NSW where the company believes total resources are approaching 1moz, with development go-ahead likely following completion of a feasibility study by mid-2008.

ALK has been working on the Dubbo zirconia project for the best part of ten years, however finally some substantial progress is being made with completion of a pilot demonstration plant imminent, funded by a Federal grant of A\$3.3m. Bulk samples will be sent to prospective global customers, and following completion of the BFS next year, project go-ahead is anticipated.

Located near to their previous operation at Peak Hill, an earlier scoping study into the Wyoming deposit at Tomingley revealed operating costs of around A\$450/oz, with potential payback in two years. With the addition of the higher grade, and open-pittable Caloma deposit, it is possible the economics will begin to look more attractive. Recent drill intersections at Caloma have included 18m@3.9g/t Au from 45m and the prospect remains open in several directions. Ongoing drilling at the Wyoming deposit at depth has shown extensions to mineralisation, including an impressive 66m@19.5g/t Au.

Alkane is involved in a JV with Newmont Mining, where work is continuing to follow up the McPhillamys discovery of 2006 (123m@2.0g/tAu from surface).

Alkane currently has a 17% stake in listed iron ore hopeful BC Iron (BCI) which was listed recently to combine the iron ore tenements of Alkane and Consolidated Minerals (CSM). BCI is drilling to prove up a resource of channel iron deposits (CID) where the company believes there is potential for a 200mt resource.

In summary, Alkane has a diverse suite of projects with potential to provide cashflow in future years. Due to recent price weakness, we consider it a good time to take a position in the stock ahead of further exploration success at Tomingley, and progress on the Dubbo zirconia project in 2008.

Dubbo should be well placed to cater for the growing demand for zirconium and rare earth products, and should not compete directly with other rare earth companies including Lynas Corporation (LYC) and Arafura (ARU).

Investment Summary

Share Price \$ps	\$0.29
Target Price \$ps	\$0.52
Materials	
www.alkane.com.au	
Issued Capital M	216M
Market Cap \$M	\$62M
Cash at hand (est)	\$3.5m
Analyst Name	Geoff Muers

Share Price Chart



Year Hi-Lo \$ps	\$0.45 - \$0.18
Avg Monthly Vol (M)	0.9

Shareholders

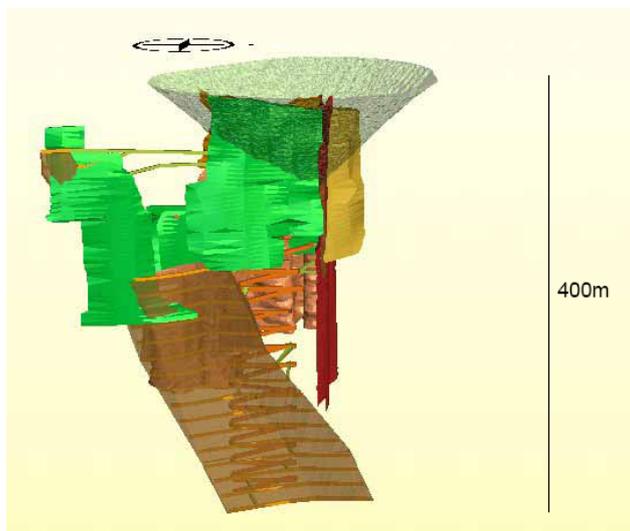
	%
ANZ Nominees	20.0%
Abbotsleigh Pty Ltd	18.0%

Wyoming Resources (>1.00g/t Au cut off)

Deposit	Measured		Indicated		Inferred		Total Tonnage (t)	Total Grade (g/t)	Ounces
	Tonnage (t)	Grade (g/t)	Tonnage (t)	Grade (g/t)	Tonnage (t)	Grade (g/t)			
	4020000	2.25	1010000	2.77	1275000	4.09	6300000	2.70	547700
	815000	2.20	15000	2.32			830000	2.20	58700
Total	4835000	2.24	1025000	2.76	1270000	4.09	7130000	2.70	606400

Company Activities

ALK is a minerals exploration company focused on exploration and development of gold and rare earth minerals.



Wyoming 1 conceptual pit/underground development

Tomingley (ALK, 100%)

The initial resource of 7.1mt@2.7g/tAu (600koz) was established in December 2005. Due to the marginal cash flows of a proposed 30kozpa operation, it was decided further work was needed to optimise the mine plan, combined with additional drilling to prove up more resources.

In May 2006, the company announced results from drilling near the Wyoming deposit, at a prospect called Caloma. Initial assays from near-surface of 39m@6.8g/tAu were recorded in extensions to the Wyoming porphyry. Drilling has been ongoing, with the resource definition program due to commence mid-October 2007.

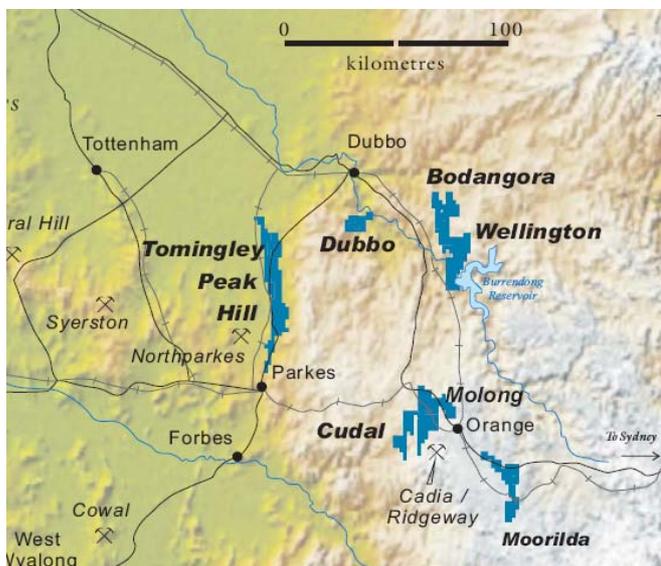
The company believes that up to 200koz may be present in the central 300m zone of the porphyry, at a grade of 2.5-3.0g/t Au, down to a depth of 100m. The mineralised porphyry has been identified over a strike length of up to 1km, and there is potential for continuation of mineralisation at depth to present an underground mining opportunity.

The company is presently looking to establish a 4-5yr open cut mine at around 1mtpa, followed by 4-5yrs of underground mining (adjacent).

McPhillamys (ALK, 49%)

The McPhillamys prospect is located within the Moorilda Project, centred about 35 kilometres south east of Orange in the Central West Region of New South Wales (below). The Project covers 175km² and forms part of a district Joint Venture (JV) with Newmont Australia Limited. Newmont is contributing A\$5 million to earn an initial 51% interest, with an additional 24% option on completion of a Bankable Feasibility Study (BFS).

In August 2006 ALK announced the first encouraging results from the McPhillamys prospect, near Orange in NSW. In October, the discovery of 123m@2g/tAu from surface highlighted potential for a bulk tonnage operation, with zinc mineralisation also identified in close proximity to the gold. The company sees potential for a 0.5 to 1.0moz Au deposit at the site, however Newmont is presently focused on assessing the regional potential of the discovery, rather than resource definition work.



Regional location map showing projects & nearby mines

Dubbo zirconia (ALK, 100%)

In April 2006, ALK received an offer of \$3.29 million in response to an application for a grant from AusIndustry, a division of the Federal Department of Industry, Tourism and Resources, to construct a large scale pilot plant for the Dubbo zirconia project.

Located approximately 20km south of Dubbo, the project is well serviced with a nearby rail line, highway, power and town of 40,000 people.

The orebody lies within a vertical alkaline volcanic intrusive with surface dimensions of 900 metres by 550 metres. A JORC compliant resource of 73mt has been established, however only the top 100m has been drilled to date. The resource is split evenly between measured and inferred. The measured resource is down to 55 metres. Predominantly a zirconium deposit grading around 2% ZrO₂, the deposit has significant by-product credits including niobium, tantalum, yttrium and uranium.

Grade is 1.96% ZrO₂, 0.04% HfO₂, 0.46% Nb₂O₅, 0.03% Ta₂O₅, 0.14% Y₂O₃, 0.014% U₃O₈ and 0.75% Total REO (rare earth oxides). Majority of the revenue is likely to be from zirconium chemicals (>50%), with other significant contributions from niobium (0.46%) and Rare Earth Elements (REE's) at 0.75% by weight.

Whilst the minerals are mostly fine grained, all are soluble in sulphuric acid, with only minor amounts of refractory material detected to date. The recovery process involves grinding of the ore, followed by low-temperature roasting. The cooled sulphur-rich liquid is then passed through a solvent extraction line to recover zirconium. Further refining involving stripping and precipitation is then conducted to recover niobium and tantalum. An additional resin process produces a yttrium/REE concentrate which is then shipped to existing specialist REE refiners for further processing. The exact process is subject to variation, depending on marketing studies and cost-benefit analysis. Products from oxides, concentrates through to pure metal can be extracted.

Perth-based TZ Minerals International Pty Ltd remains the project manager, and is involved with updating the feasibility study and marketing of the products. With the demonstration plant expected to be fully operational by November 2007, products will be generated for a period of between 6 and 12mths, depending on requirements. It is anticipated during this period, the feasibility study will be completed enabling project go-ahead.

The zirconium & rare earths market

Zirconium, the principle revenue for the proposal, is not considered a rare earth due to its relative abundance. More than 95% of current production comes from processing of zircon recovered from mineral sands. Historically, zirconium has been produced from a mineral called baddeleyite in South Africa, with small amounts produced in Russia. China currently dominates supply of world zirconium products, with production around 100ktpa. ALK is planning to produce up to 7ktpa of zirconium products (oxide basis). Zirconium chemicals are used as catalysts, pigments, ceramics and electronics amongst other uses. A growing use is in solid fuel cells and in replacement of lead chemicals by zirconium in undercoating of all metal components of vehicles.

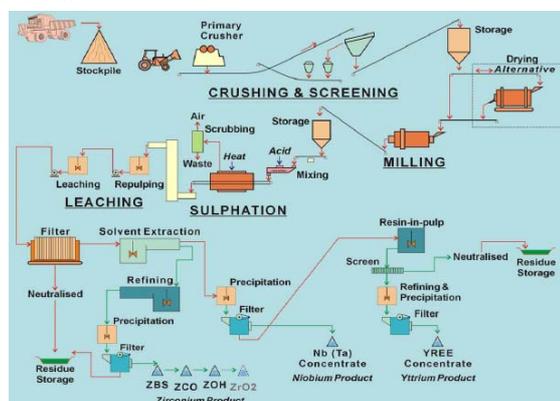
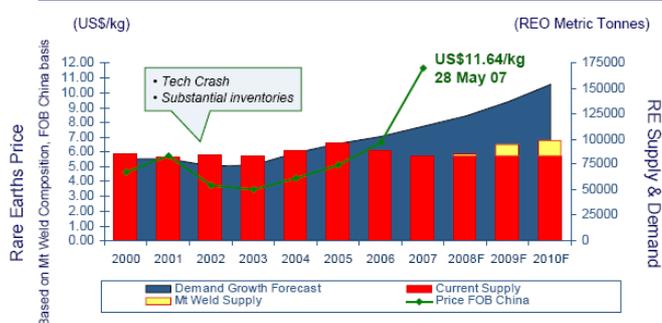
The second major revenue component for the project is Niobium. Brazil provides the majority of raw material for the niobium market (35ktpa) most of which is converted into ferro-niobium for use in steel alloys. A minor amount is utilised in high-end ceramics. In recent times, due to the high price of vanadium (>US\$7/lb), niobium has been substituted for vanadium in steel. By weight it is 60% effective, and therefore provided the price differential remains, substitution is common. Due to ferroniobium prices recently greater than US\$25/lb, this substitution is reversing. Worldwide demand for vanadium pentoxide is estimated at above 100ktpa, with demand driven by the high-end steels such as those used in aerospace technology.

Rare earths make up a major revenue component for the project, with elements including yttrium, hafnium and potentially uranium. Hafnium is used as a specialist metal in the nuclear industry and also in alloys. Yttrium and other rare earths have a variety of uses including ceramics, metallurgical and electronics. A key growth component is believed to be in electric motors for hybrid car engines.

Of particular interest is the use of zirconium and hafnium metal in nuclear power facilities, and the recent separate announcements by Intel and IBM on the discovery that hafnium is important for new-generation computer processors.

In summary, the growth of the market is largely linked to industrialisation and the steel and power industries. The growth of new markets and technology (ie fuel cells) provides significant upside to demand forecasts.

Rare Earths market history and independent forecast



Rare Earths supply & demand outlook (from Lynas Corporation)

Process flow sheet

Other projects

In addition to the projects mentioned above, ALK has an existing resource of 2.1mt@1%Cu and 0.3g/tAu at Galwadgere, near Wellington in NSW. Discussions are continuing with interested parties on how best to progress this project, however in our view it appears marginal, even in the current high price environment.

The Wyoming project is located adjacent to the Peak Hill gold mine which ALK operated from 1996 to 2002, producing over 150,000koz gold and welcome cashflow. The wet plant and office infrastructure remain, along with a resource of approximately 0.5moz (11.3mt@1.2g/tAu and 0.11%Cu). The sulphide ore is moderately refractory, however a pre-feasibility study suggested that bioheap leaching could provide a possible development option.

Alkane is involved in a number of other exploration properties, either wholly owned or in joint venture. Whilst many of these are showing encouraging signs, the company is presently focused on development of the gold and zirconia projects.

Other rare earth projects in Australia

Despite the scarcity of global resources of rare earths, there are two companies listed in Australia who are planning to develop rare earths projects. Both companies have seen their share prices significantly re-rate over the last twelve to eighteen months, Arafura Resources (ARU) has increased from A\$0.30 to A\$1.70 and Lynas Corporation (LYC) has increased from A\$0.30 to A\$1.30. This represents an increase of 570% and 430% respectively. Lynas Corporation (LYC) has a market capitalisation at the date of this report of around A\$700m, and is developing the Mt Weld deposit in Western Australia. Mining at the site has commenced, with production anticipated in 2008. Lynas has an additional resource in Malawi, and another deposit adjacent to Mt Weld (Crown, 37mt). The Mt Weld deposit is 7.7mt@12% REE, for a contained resource of 0.9mt of rare earths. The company plans to produce around 21ktpa of product, and has constructed a processing facility in Malaysia to which it will ship concentrate. The intrusive carbonatite resource is situated 35km SE of Laverton, and transport involves 160km of road and 640km of rail.

ARU with a market capitalisation of around A\$220m, is developing the Nolans Bore project in the Northern Territory. ARU is at a similar stage to ALK, in that it has received an AusIndustry grant to complete pilot testwork, and plans to be in production in 2010. The Nolans Bore resource is 18.7mt@3.3%REE's, 14%P₂O₅ and 0.02%U₃O₈. Both Nolans Bore and Mt Weld plan to mine at a rate of around 750ktpa. ARU plans to export around 20ktpa of Rare Earth Oxides (REO's), uranium, phosphoric acid and other products from Darwin, 1200km by rail from the project, situated 130km north of Alice Springs.

Board/management

Alkane is lead by Ian Chalmers, a geologist with 37 years in the minerals business. Ian was involved in the successful development of the Peak Hill gold mine, and has been with the company 21 years. Non-executive chairman is John Dunlop, a consultant mining engineer and current chairman of Alliance Resources (AGM) and Drummond Gold Ltd. John is also chairman of the mineral industry consultants association. Ian and John are supported by three non-executive directors; Ian Cornelius, Tony Lethlean and Ian Gandel. Mr Cornelius is presently a non-executive director of Pancontinental Oil and Gas NL and New World Alloys Ltd. Tony Lethlean is a geologist who has worked in the mining industry in a technical capacity, along with the stockbroking industry. Mr Lethlean currently consults to Cartesian Capital Pty Ltd. Ian Gandel has been involved in the mining business since 1994 as a private investor, and through Gandel Metals and other vehicles, maintains stakes in a number of listed mining and unlisted mining ventures, including Alliance Resources.

The Board holds a substantial position in the company.

Discussion, Tomingley Gold Project

We consider presenting a valuation for the Tomingley gold project premature at this stage, as the resource is still being defined, along with details of the feasibility study. The company has indicated potential for commencement of open cut mining mid-2009 at a rate of 1mtpa for between 4 and 5yrs, however the timing may be optimistic.

Gold production could be in the order of 70-80kozpa, with recovery around 93%. A cash cost of A\$450/oz has previously been estimated. Following the open cut, the operation moves underground where the company has indicated potential for a dual-mining situation recovering around 70-80koz gold pa, at a mining rate of 500ktpa rate from two areas, Wyoming and Caloma. Due to the high cost of underground mining, high grade reserves (ie >5g/t) will need to be delineated to support the operation, and as the Caloma underground potential is yet to be tested. The establishment of such reserves is some time away.

Various royalties are payable to Compass Resources (CMR) and Golden Cross Resources (GCR) relating to different parts of the orebody, along with standard government royalties which could sum up to around 5% of net smelter revenue.

Total capex of A\$40m has been estimated by the company to establish the open cut mine and mill, with additional capital required in years 3 to 5 to develop the decline and UG facilities. A mine life of 5 to 6yrs has been indicated for the underground.

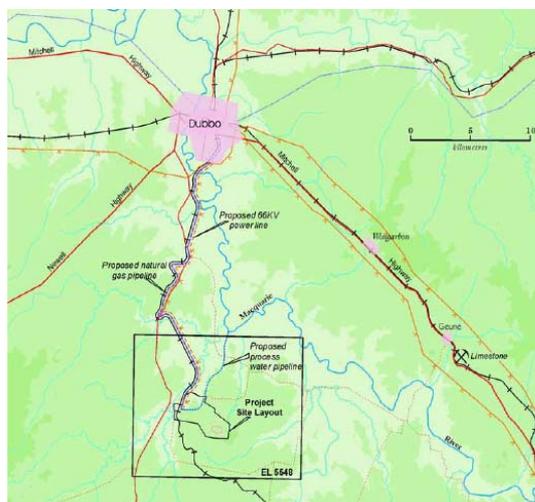
Discussion, Dubbo zirconia

The company has indicated potential for an operation mining between 200kt and 500ktpa at Dubbo, generating annual revenues up to A\$100mpa, with a capital cost of around A\$180m (based on 500ktpa). First production by mid 2010 has been indicated. Due to the high capital and operating costs, the project will rely on relatively high prices for its products, the markets for which are yet to be established.

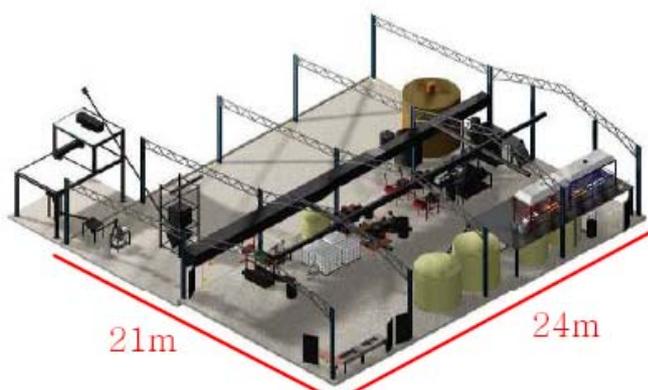
The project has a virtually unlimited mine life, with a negligible strip ratio due to the size of the deposit. The cost of production is likely to be high, despite the low mining cost, due to the need for a large amount of sulphuric acid to be utilised in the roasting of the ore. The company is presently evaluating options for obtaining sulphuric acid. Due to a paucity of local supply, and the large quantities likely to be required, there may be a need to produce the acid on site from raw materials.

We have held off from presenting an indicative valuation for the project, as a cautious approach is warranted at this stage due to the risk attached to the processing of the ore, and more importantly, product marketing. As many of the markets are small, fragmented and volatile in terms of pricing it will take considerable time for the project to be able to ensure steady offtake.

It is important to note that the Dubbo project contains uranium, and sale of uranium products is currently prohibited in NSW. Despite this, the ore is not classed as radioactive, and therefore the company believes the issue is unlikely to represent a major impediment going forward. A fair amount of legal work and amendment to NSW legislation is likely to be required to ensure uranium products can be sold. Uranium may represent around 10% of potential revenues and whilst perhaps not critical, is an important component of project economics.



Location of Dubbo project



Model of scaled demonstration plant under construction

Conclusion

In summary we can see potential in Alkane, with a fair amount of news flow over the next twelve months or so, with finalisation of the BFS for the Tomingley gold project, where a resource of over 1moz is anticipated, and the Dubbo zirconia project. From a valuation perspective, the current market capitalisation of A\$60m is modest, and in our opinion may be justified by the potential of the Tomingley gold project alone.

In addition, the company has a stake in BC Iron worth over A\$15m, gold resources additional to Tomingley likely to be over 1moz, and numerous exploration prospects including the Newmont JV. The upside to the company comes from the Dubbo project, which the market has not begun to factor in despite the extensive amount of work being conducted behind the scenes. We believe as more information emerges in 2008 from the pilot program and marketing initiatives, this may begin to change.

It is worth noting that whilst Alkane will compete with LYC and ARU for a minor portion of Dubbo's products, the principle revenue driver for ALK is from zirconium products, which are a negligible component of revenue for both peers. We believe the market for REE's is growing rapidly, and with emergence of new suppliers, this should serve to stimulate the market and provide pricing benefits enabling a greater usage of products in the high-growth technology business of the energy industry (ie hybrid cars, solar power, etc) amongst other uses.

It is important to highlight the key risks for ALK:

- Sufficient resources/reserves to establish a 10yr/80kozpa gold operation at Tomingley are yet to be established;
- Marketing risk for Dubbo, including the important revenue component of uranium, sale of which is currently prohibited in NSW.

We recommend Alkane as a speculative buy at A\$0.29, with a significant amount of news flow expected to emerge over the next year, including completion of the pilot plant, finalisation of the Tomingley gold project feasibility, resource upgrades and exploration news from joint ventures. We note the relative illiquidity of the stock, however we would hope this will improve in 2008 following potential capital raisings.

RISK STATEMENT The analyst has determined that the risk profile for this company is significantly higher than for the market as a whole, and so may not suit all investors. Clients should make an assessment as to whether this stock and its potential price volatility is compatible with their financial objectives. Clients should discuss this stock with their SHAW advisor before making any investment decision.

Company Directors

Mr John S. F. Dunlop (Ch)	Mr Ian Jeffrey Gandel
Mr (David) Ian Chalmers (MD/CEO)	Mr Anthony (Tony) D. Lethlean
Mr Ian (Inky) R. Cornelius	

Company Activities

Alkane Exploration Ltd (ALK) is a minerals exploration company focused on exploration, development and mining of gold and rare earth minerals. The company is focused on its Tomingley Project, but has numerous other projects in WA and NSW.

Information for Company Activities is sourced from Huntley Investment Information Pty Ltd.

Disclosures and Disclaimers

SHAW Stockbroking ABN 24 003 221 583 ('SHAW') is a participant of ASX Limited and holder of Australian financial services licence number 236048.

ANALYST CERTIFICATION

The Research Analyst who prepared this report hereby certifies that the views expressed in this document accurately reflect the analyst's personal views about the company and its financial products.

The Research Analyst has not been, is not, and will not be receiving direct or indirect compensation for expressing the specific recommendations or views in this report. As at the date of this report the Research Analyst does not have an interest in the financial products of the company, however holds an economic interest in 17% owned BC Iron.

DISCLAIMER

This report is published by SHAW to its clients by way of general, as opposed to personal, advice. This means it has been prepared for multiple distribution without consideration of your investment objectives, financial situation and needs ('personal circumstances'). Accordingly, the advice given is not a recommendation that a particular course of action is suitable for you and the advice is therefore not to be acted on as investment advice. You must assess whether or not the advice is appropriate for your personal circumstances before making any investment decisions. You can either make this assessment yourself, or if you require a personal recommendation, you can seek the assistance of your SHAW client advisor.

This report is provided to you on the condition that it not be copied, either in whole or in part, distributed to or disclosed to any other person. If you are not the intended recipient, you should destroy the report and advise SHAW that you have done so.

This report is published by SHAW in good faith based on the facts known to it at the time of its preparation and does not purport to contain all relevant information with respect to the financial products to which it relates. Although the report is based on information obtained from sources believed to be reliable, SHAW does not make any representation or warranty that it is accurate, complete or up to date and SHAW accepts no obligation to correct or update the information or opinions in it.

If you rely on this report, you do so at your own risk. Any projections are estimates only and may not be realised in the future. Except to the extent that liability under any law cannot be excluded, SHAW disclaims liability for all loss or damage arising as a result of any opinion, advice, recommendation, representation or information expressly or impliedly published in or in relation to this report notwithstanding any error or omission including negligence.

DISCLOSURE

SHAW will charge commission in relation to client transactions in Financial Products and SHAW client advisers will receive a share of that commission. SHAW, its associates and their respective officers and employees may in the future earn fees and commission from dealing in the subject company's Financial Products.