



18 April 2017

Quarterly Activities Report to 31 March 2017

Tomingley Gold Operations (TGO)

- A 59% increase in gold production from the previous quarter to 18,721 ounces reflected recovery from the weather affected previous two periods. Site operating cash flow after development costs for the quarter was \$6.5M but due to delayed payments from the December quarter in January, the net position was \$2.0M.
- Full year guidance for FY2017 remains at production of 53,000 – 58,000 ounces with an AISC of A\$1,600 – A\$1,750 although production is expected to be at the higher end and AISC at the lower end of the guidance range due to higher pit grade reconciliation.
- **Quarter Results**
 - Gold production was above forecast at 18,721 ounces
 - Site operating cash costs reduced by 33% from previous quarter at A\$1,070/ounce with all in sustaining costs (AISC) of A\$1,201/ounce
 - Gold sales 16,303 ounces for revenue of A\$27.6 million at an average price of A\$1,694/ounce
 - Gold forward contracts at 31 March 2017 of 31,000 ounces at average price of A\$1,716/ounce.
- A substantial exploration program has been implemented to build on the existing resources and reserves inventory, testing underground ore positions at the Tomingley Gold Mine (TGO) and at near mine and regional exploration targets.

Dubbo Project (DP)

- Upward price movements in the zirconium chemicals and powders, and rare earth magnet markets are signalling renewed confidence in the sector, with further increases anticipated during 2017.
- Very high purity zirconias have been produced at ANSTO to enable ASM to successfully compete in most downstream high value added zirconia markets, and to facilitate a very high purity hafnium/zirconium concentrate for further processing to high purity hafnium.
- The modularised build is being optimised and costed by Outotec to further support the bankability of the project, and assist with flexible financing options for construction.
- Minchem, on behalf of ASM, has secured six non-binding LOIs for the supply of zirconium chemicals that will account for about 60% of the stage 1 development of 8,150tpa of zirconia (ZrO₂) equivalent products, supporting about 15% of anticipated project revenues. Further zirconium chemicals LOIs can be expected in coming months.

Corporate

- The Group's cash position totalled A\$29.0M with A\$20.8M in cash and bullion on hand valued at A\$8.2M, an increase of A\$4.5M from the previous quarter.

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TOMINGLEY GOLD OPERATIONS (TGO)

Tomingley Gold Operations Pty Ltd 100%

The TGO is based on four gold deposits (Wyoming One, Wyoming Three, Caloma and Caloma Two) located about 14 kilometres north of the Company's inactive Peak Hill Gold Mine, and approximately 50 kilometres southwest of Dubbo.

Operations

TGO recorded 59% higher production levels compared to quarter two, as was expected. This was due to higher grade ore being released, particularly in Caloma and Caloma Two, and clearer weather generally. There were still several large rain events during the quarter, particularly the large storm systems that affected NSW over most of March, nevertheless the operation performed well.

A total of 18,721 ounces of gold were poured which exceeded the Company's revised plans to recover from the weather impacted first half of the financial year. As discussed in the December quarterly activities report the H2 AISC is higher than forecast as a key action taken on the mining schedule includes operating a larger digger fleet for a longer period than originally planned to recover the weather delayed waste movement from H1. The current forecast indicates that Q4 production should be similar to Q3, however if over reconciliation in Caloma Two continues, gold production could be materially higher. The full year guidance of FY2017 production remains unchanged at 53,000 – 58,000 ounces at an AISC of A\$1,600 – A\$1,750 per ounce, however production is expected to be in the higher end and AISC at the lower end of the guidance range.

Mining continued to occur across three pits, Caloma, Caloma Two and Wyoming One. Wyoming Three continues to be used for water storage. Initial reconciliations of the Caloma Two open cut are positive with a higher actual in-situ grade than modelled.

Gold poured for the quarter was 18,721 ounces, with sales of 16,303 ounces at an average sales price of A\$1,694/oz generating revenue of A\$27.6 million. Bullion on hand increased by 2,414 ounces to 4,986 ounces (fair value at quarter end of A\$8.2 million). Site operating cash flow after development costs for the quarter was \$6.5M, but due to delayed payments from the December quarter in January, the net position was \$2.0M. The hedge book at quarter end was 31,000 ounces gold at an average forward price of A\$1,716/oz.

Underground Mining Study

Recent drilling beneath Wyoming One (ASX Announcement 20 January 2017) showed continuing grade and extensive mineralisation. Several sections of the geological resource model have been revised based on the drilling program resulting in a reduction in the overall mineral inventory. TGO have initiated further drilling targeting strike extensions and in-fill areas with the aim of lifting the gold ounces per vertical metre in any future designs. Further drilling at depth to probe the extent of high grade shoots is also intended. This drilling will take place over the coming two quarters.

Regional Exploration

An extensive regional air core drilling program commenced within the Tomingley Gold Project (TGP) in February 2017. 16,277 metres have been completed to date along drill traverses spaced 400 to 800 metres apart, testing an initial area from the southern boundary of TGO mine site to the Cemetery target just north of the Peak Hill mine site, approximately 12 kilometres. Although minor drilling has been infilling areas close to TGO, land access difficulties have meant that much of the recent work has been



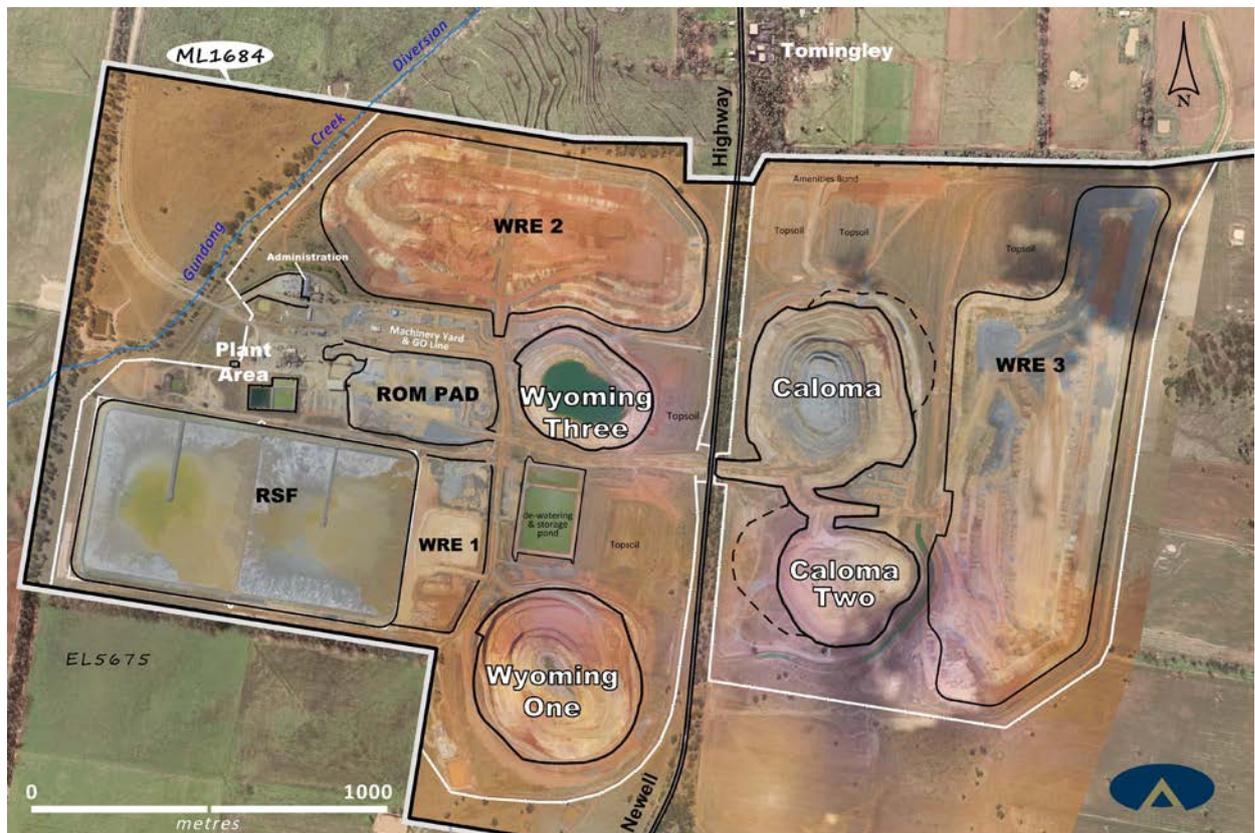
completed in excess of 5 kilometres south of the mine.

Early results indicated that stratigraphy and mineralisation similar to that which hosts the ore deposits at TGO is present in the drilled areas and results were reported in the ASX release 11 April 2017. The mineralised results are similar to those recorded in the very early drilling of the Wyoming One deposit.

TGO FY 2017 Quarterly Production Figures

TGO Production		FY 2016	Sept Quarter 2016	Dec Quarter 2016	Mar Quarter 2017	FY 2017
Waste mined	BCM	6,199,820	1,533,279	1,799,904	2,165,717	5,498,900
Ore mined	Tonnes	1,285,454	221,139	318,216	249,109	788,464
Strip Ratio	Ratio	12.2	18.4	15.4	23.0	18.7
Grade	g/t	1.84	1.51	1.39	2.42	1.75
Ore milled	Tonnes	1,096,105	231,797	279,338	281,654	792,789
Head grade	g/t	2.08	1.50	1.48	2.36	1.80
Recovery	%	90.9	90.1	90.4	91.1	90.6
Gold poured	Ounces	67,812	10,435	11,756	18,721	40,912
Revenue Summary						
Gold sold	Ounces	67,983	10,000	12,519	16,303	38,822
Average price realised	A\$/oz	1,605	1,627	1,666	1,694	1,667
Gold revenue	A\$M	109.1	16.3	20.8	27.6	64.7
Cost Summary						
Mining	A\$/oz	736	1,188	1,029	721	928
Processing	A\$/oz	292	505	450	269	381
Site Support	A\$/oz	96	148	118	80	108
C1 Site Cash Cost	A\$/oz	1,124	1,841	1,597	1,070	1,417
Royalties	A\$/oz	46	35	40	51	44
Sustaining capital	A\$/oz	31	130	37	8	48
Rehabilitation	A\$/oz	18	68	72	38	55
Corporate	A\$/oz	37	65	57	34	49
AISC¹	A\$/oz	1,256	2,139	1,803	1,201	1,613
Bullion on hand	Ounces	2,971	3,368	2,572	4,986	4,986
Stockpiles						
Ore for immediate milling	Tonnes	701,047	661,645	709,148	620,271	620,271
Grade	g/t	0.82	0.80	0.79	0.75	0.75
Contained gold	Ounces	18,480	17,201	18,195	15,126	15,126

¹AISC = All in Sustaining Cost comprises all site operating costs, royalties, mine exploration, sustaining capex, mine development and an allocation of corporate costs, on the basis of ounces produced. AISC does not include share based payments or net realisable value provision for ore inventory.



TGO site image at 31 March 2017

DUBBO PROJECT (DP) – zirconium, hafnium, niobium, yttrium, rare earth elements

Australian Strategic Materials Ltd (ASM) 100%

The DP remains construction ready, with the mineral deposit and surrounding land wholly owned; all State and Federal approvals in place; an established flowsheet and a solid business case.

Negotiations for offtake contracts and product pre-certification continue. This applies particularly to zirconia, where the latest very high purity material from the DPP at ANSTO will ensure the Company competes in virtually all downstream market areas, as described further in *Marketing* below. Minchem, on behalf of ASM, has secured six non-binding Letters of Intent (LOIs) for the supply of zirconium chemicals that will account for about 60% of the stage 1 development of 8,150tpa of zirconia (ZrO_2) equivalent products, supporting about 15% of anticipated project revenues. These LOI's reflect expressions of interest in ASM's zirconia product, provided specification for each customer is met, and do not represent binding offtake agreements. It does, however, indicate market demand exists for zirconia that will be produced by ASM. Minchem continues to seek further expressions of interest from potential customers. The significant added benefit of producing very high purity zirconium products is that it also enables a very high purity hafnium/zirconium concentrate to be produced, as all known deleterious impurities have already been removed.

The Company continues to evaluate options to produce hafnium concentrates with 95% purity and greater as precursors for very high purity hafnium chemicals, oxides and metals.



Due diligence of Vietnam Rare Earth JSC (VTRE) continued. The LOI of April 2016 has been extended to October 2017 to allow satisfactory time to complete the Toll Treatment Agreement and Marketing Agreement, and to agree on potential investment in VTRE. The Company has also commenced plans to process some parcels of rare earth concentrate it has purchased on market in order to establish and prove its supply and logistics functions at VTRE and bring forward customer approvals in advance of DP development.

Financing

The funding strategy has not changed with strategic investment, Export Credit Agency (ECA) finance and commercial debt remaining as the key components of the envisaged project funding suite. ASM has presented to numerous local and international fund managers in the quarter and discussions are continuing with relevant ECAs and commercial banks.

The ability of the DP to provide long term sustainable security of supply of a diverse range of over 15 critical metals and oxides is one of the strong themes which is being increasingly recognised both in Australia and overseas. The diversity of products and markets also provides stability of revenue streams over a broad base as different markets cycle through ups and downs over time.

Engineering

The project remains ready for detailed design and construction to commence, contingent on financing.

To further de-risk financial investment in the project ASM has engaged Outotec to refine the existing engineering to provide bankable level costing for the processing section of the project using the modularised build philosophy (ASX announcement 28 October 2016). This comprehensive task should allow the Company to quickly commence the construction phase following financing. Results of the work with Outotec are now expected in Q1 FY18

Marketing Developments

Significant changes have occurred in the Chinese manufacturing sector during the first quarter of 2017, and it is expected that the period of low prices and oversupply are now over for rare earths and zirconium materials. Price increases of 5-7% have been recorded for both praseodymium and neodymium oxides and their alloys since the beginning of the year, two of the key rare earths required for NdFeB permanent magnets. Continued strong and growing demand for magnets in large volume markets such as renewable energy wind power, electric vehicles, and robotics is expected to continue or exceed the impressive growth rates over the past year.

Chinese Premier Li Keqiang at the National People's Congress announced on 5 March that ambitious goals for advanced industries and technologies are to be supported by US\$100Bs of subsidies, funds, and other measures to promote further value adding in China. This initiative is aimed at moving industry away from low value, polluting industries, to manufacturing for high value markets. The "Made in China 2025" goals and policies will have far reaching effects in China and world markets, particularly in those countries relying on manufacturing jobs for employment or company profits. The government announced support measures for several high technology sectors, which have various targets of having up to 80% domestic Chinese supply by 2025. The European Union Chamber of Commerce in China has released a comprehensive analysis titled '**China Manufacturing 2025**', which discusses the key implications and effects on Europe, and other countries. In the report, it highlights that China is well recognised as the factory of the world, responsible for over 20% of global manufacturing across a number of industries as shown in Table 1. The top eight industries supported by the government are shown in Figure1 below.



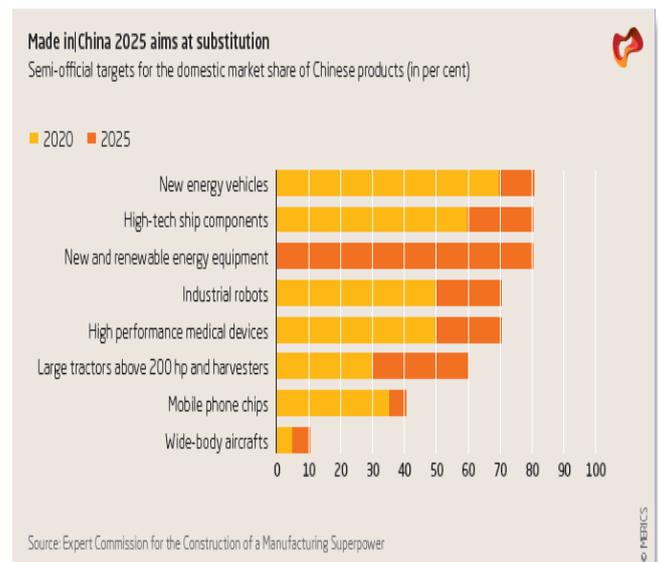
The Company expects that China's domestic policies will have the unintended consequence of restricting rest of world supply of these critical elements, either in the form of oxides, metals, magnets, or electric motors, and that China would like to only sell the finished products such as electric vehicles, or total wind power systems, but not the magnets or raw materials. The Company also believes that China will not intentionally restrict rest of world supply of these products and materials, but it is expected that Chinese downstream components manufacturers will simply consume all available domestic materials, as well as depend on increasing amounts of imported raw materials, just as other north Asian developed countries such as Japan and Taiwan continue to do today. In short, the window of Chinese supply may be expected to close further and sooner than previously anticipated, at a time when China's dominance across the supply chain has never been greater.

Table 1: China Factory of the world (2015)

- 28% of world's automobiles
- 41% of world's ships
- 80%+ of world's computers
- 90%+ of world's mobile phones
- 60% of world's colour TV sets
- 50%+ of world's refrigerators
- 80%+ of world's air-conditioners
- 24% of world's power
- Half of the world's steel
- **20% of global manufacturing**

Source: European Chamber of Commerce in China

Figure 1: China's Target for domestic market share



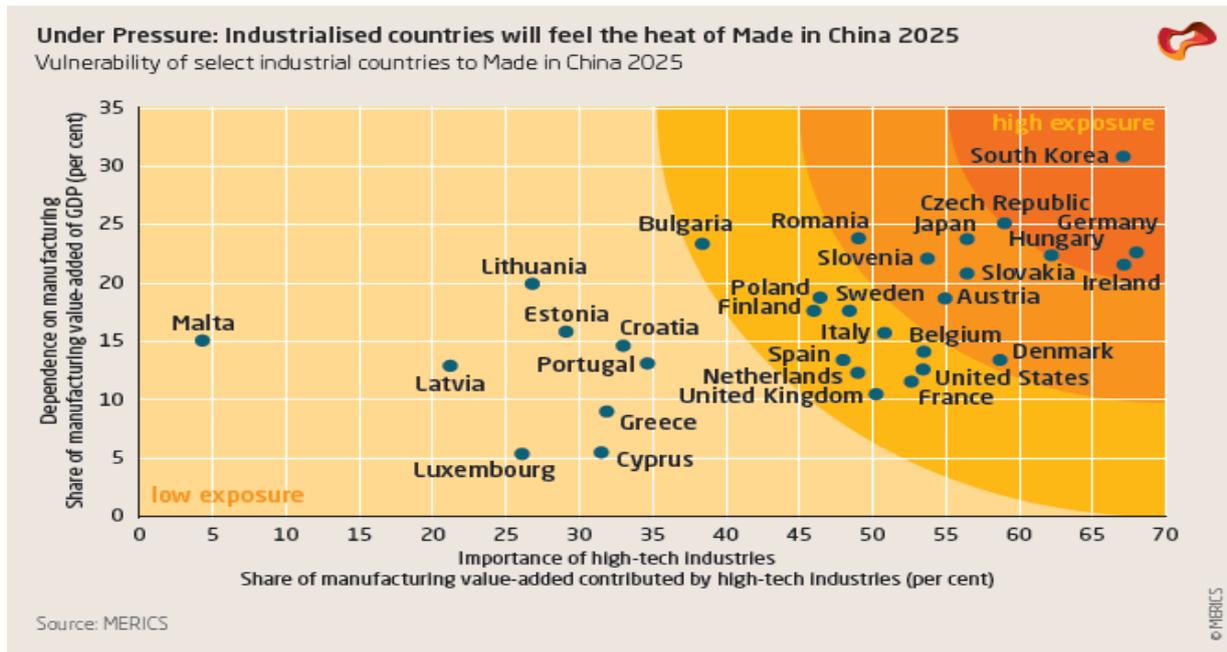
Source: European Chamber of Commerce in China

Importantly, most of the critical elements from the DP will be essential for some or all of these eight target industries in China. This will increase the significance of the DP, as the most advanced project outside of China, as an independent source of supply.

Figure 2 shows the vulnerability of selected industrialised countries as a consequence of China's new **Made in China 2025** policy guidelines. Such countries must now seek alternative supplies to China and develop complete mine to market supply chains in order to continue and guarantee production. China is already following this path for zirconium required for its nuclear power program and domestic industry, by investing in Australian mineral sands companies and projects so they can secure and supply concentrates or products directly to China. Similarly, Chinese investments in the lithium supply chain for rechargeable lithium batteries is following the same path, yet no foreign investment or ownership of mineral resources is permitted in China. In both cases, Chinese companies are making substantial investments in overseas mining and processing projects in order to guarantee supply.



Figure 2: Vulnerability of selected industrialised countries to China's Made in China 2025.



Source: European Chamber of Commerce in China

A combination of higher raw materials prices and a government led environmental clean-up of industry has resulted in prices for zirconium oxychloride (ZOC) increasing by over 12% since the end of last year. ZOC is the base chemical for most downstream zirconium products and prices finished the quarter at close to US\$1,700/t, or US\$5,000 to US\$5,500 on a 100% zirconia basis. The main reasons for increased prices was a rise of processing reagent prices and a clear sign that zircon prices bottomed in the fourth quarter, which has coincided with tightness of supply in Q1 2017. Leading mineral sands producers increased the zircon prices by US\$50-60/t in Q1 2017, with similar price rises also accepted by customers in Q2 2017. The current outlook for Q3 2017 is for a more significant price increase of US\$100-200/t, underpinned by a small shortage of supply as planned new mines miss their commissioning dates. A shortage of premium zircon with uranium and thorium below ~300 ppm, needed to produce fused zirconia less than 500 ppm U+ Th, is also expected to witness premium pricing over other grades.

Hafnium market supply is also under pressure with Toshiba announcing the bankruptcy of the business unit housing Westinghouse Electric Corporation (WEC), which produces hafnium free zirconium metal for nuclear reactor fuel assemblies. Combined with ongoing losses by Areva in France, the leading European supplier, it is easy to appreciate that hafnium supply has and will be constrained as it is a by-product from making hafnium free zirconium metal.

New uses for hafnium in cutting edge technology continue to be developed. This was evidenced in the High-k dielectric workshop in Dresden, Germany that ASM attended, where discussion occurred particularly in the development of low power but high performance electronics. Following the realisation at the High-k workshop that hafnium supply is constrained by the demand for hafnium free zirconium metal for the nuclear industry, ASM has been invited to make a presentation at the Critical Materials Council of Semiconductor Fabricators conference in Dallas, Texas in May on the DP and its role as a significant potential hafnium source independent of the nuclear fuel industry and Chinese ZOC supply.

Publicity surrounding the recent successful SpaceX flight has highlighted the use of the C103 alloy for the reusable rockets, which contains 90% niobium and 10% hafnium metal. Interestingly, other activities in



that group include Tesla's electric vehicles and solar products, which will consume significant quantities of inputs containing elements which the DP will produce, particularly when forecasted sales are met. Space travel is expected to continue to grow rapidly, particularly over the 80 plus years of the DP's potential life. Apart from SpaceX, Blue Origin and NASA have similar space programs, as do a number of other countries looking at reusable rockets. ASM believes it is best placed to supply this growing market.

ASM also attended a NATO meeting on Rare Earths: Securing Supply Chains, Materials, and Technologies during the quarter and is planning to attend two trade conferences late April and the Cleantech and Technology Metals Summit in Toronto mid-May.

About the DP

The DP is located 25 kilometres south of the large regional centre of Dubbo in the Central West Region of New South Wales. It is based upon large in-ground resources of the metals **zirconium, hafnium, niobium, tantalum, yttrium and rare earth elements**. Over many years the Company has developed a flow sheet consisting of sulphuric acid leach followed by solvent extraction recovery and refining to produce several products, including trialling the process extensively at demonstration pilot plant scale.

All New South Wales State Government and Australian Federal Government approvals for the development of the DP are in place.

The land which the project area covers, about 3,500 hectares, is wholly owned by the Company. Of this land, 500ha is required for mining and processing operations, about 1,000ha is allocated to biodiversity offset (federal environment requirement) and the remaining 2,000ha is now being farmed. A wholly owned subsidiary Toongi Pastoral Company Pty Ltd (TPC) has been formed and a professional manager engaged to manage the farming and biodiversity offset lands.

NORTHERN MOLONG PORPHYRY PROJECT (NMPP) includes BODANGORA, KAISER and FINNS CROSSING PROPERTIES (gold-copper)

Alkane Resources Ltd 100%

As advised (ASX announcement 4 March 2017) an RC drilling program of 13 holes totaling 3400 metres was completed testing four target areas: Driell Creek, Boda, Kaiser and Windora within the Northern Molong Porphyry Project (NMPP). The NMPP covers an area of 110 km² located approximately 20-25 km north of Wellington in the central west of NSW and encompasses three exploration licences; Bodangora, Kaiser and Finns Crossing. The project covers a large portion of the northern Molong Volcanic Belt (MVB) which is host to a number of mineral deposits exemplified by the world class alkalic porphyry deposits within the Cadia Valley Operations of Newcrest Mining Limited.

Extensive zones of alteration and gold-copper mineralisation were recorded in several holes confirming the potential of this 15 km long corridor to potentially host significant deposits. Follow up drilling has been scheduled.

ELSIENORA (gold); ORANGE EAST PROJECT (gold-copper); WELLINGTON (copper-gold); CUDAL (gold-zinc); ROCKLEY (gold) were inactive during the quarter



LEINSTER REGION JOINT VENTURE (nickel-gold)

*Alkane Resources Ltd 19.4% diluting, Australian Nickel Investments Pty Ltd (ANI) 79.6%. Two prospects - **Miranda** and **McDonough Lookout**.*

At the time of this report an update from ANI had not been received.

CORPORATE

The Group's cash position at quarter end totalled A\$29.0 million with A\$20.8 million in cash and bullion on hand valued at A\$8.2 million, an increase of A\$4.5 million from the previous quarter.

Total drawn debt at quarter end was A\$1.0 million, with a scheduled repayment of A\$2.0 million completed during the quarter.

The performance bond facility of \$5.1M was utilised during the quarter freeing up cash that has been used to back rehabilitation bonds.

In February, Mr Alister MacDonald was appointed as General Manager-Marketing for the Alkane Group. Alister brings to the Company over 30 years' international experience in various capacities across the zirconium/hafnium industry, from mineral sands to zirconium chemicals and precursors, and technical ceramics components, with an in depth understanding of the key issues facing critical metals supply from China and elsewhere.

Alister studied ceramic engineering at the University of New South Wales and is a specialist in technical marketing, business development and strategic supply chain analysis for zirconium, hafnium, rare earths and other minor metals and minerals. He has been a consultant to the Company for some nine years and the Board is pleased to have secured his exclusive services, complementing the highly credentialed development team that is driving the DP forward to production.



Competent Person

Unless otherwise advised above, the information in this report that relates to exploration results, mineral resources and ore reserves is based on information compiled by Mr D I Chalmers, FAusIMM, FAIG, (director of the Company) who 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 a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Chalmers consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Disclaimer

This report 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 report 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 Geoscientists.

ABOUT ALKANE - www.alkane.com.au - ASX: ALK and OTCQX: ANLKY

Alkane is a multi-commodity company focused in the Central West region of NSW, Australia. Currently Alkane has two advanced projects - the Tomingley Gold Operations (TGO) and the nearby Dubbo Project (DP). Tomingley commenced production early 2014. Cash flow from the TGO has provided the funding to maintain the project development pipeline and will assist with the pre-construction development of the DP.

The NSW Planning Assessment Commission granted development approval for the DP on 28 May 2015 and on 24 August 2015 the Company received notification that the federal Department of the Environment gave its approval for the development. Mining Lease 1724 was granted on 18 December 2015 and the Environment Protection Licence was approved on 14 March 2016. Financing is in progress and this project will make Alkane a strategic and significant world producer of zirconium, hafnium and rare earth products when it commences production in 2019.

Alkane's most advanced gold copper exploration projects are at the 100% Alkane owned Wellington, Bodangora and Elsenora prospects. Wellington has a small copper-gold deposit which can be expanded, while at Bodangora a large monzonite intrusive complex has been identified with porphyry style gold copper mineralisation. Encouraging gold mineralisation was recently drilled at Elsenora.

